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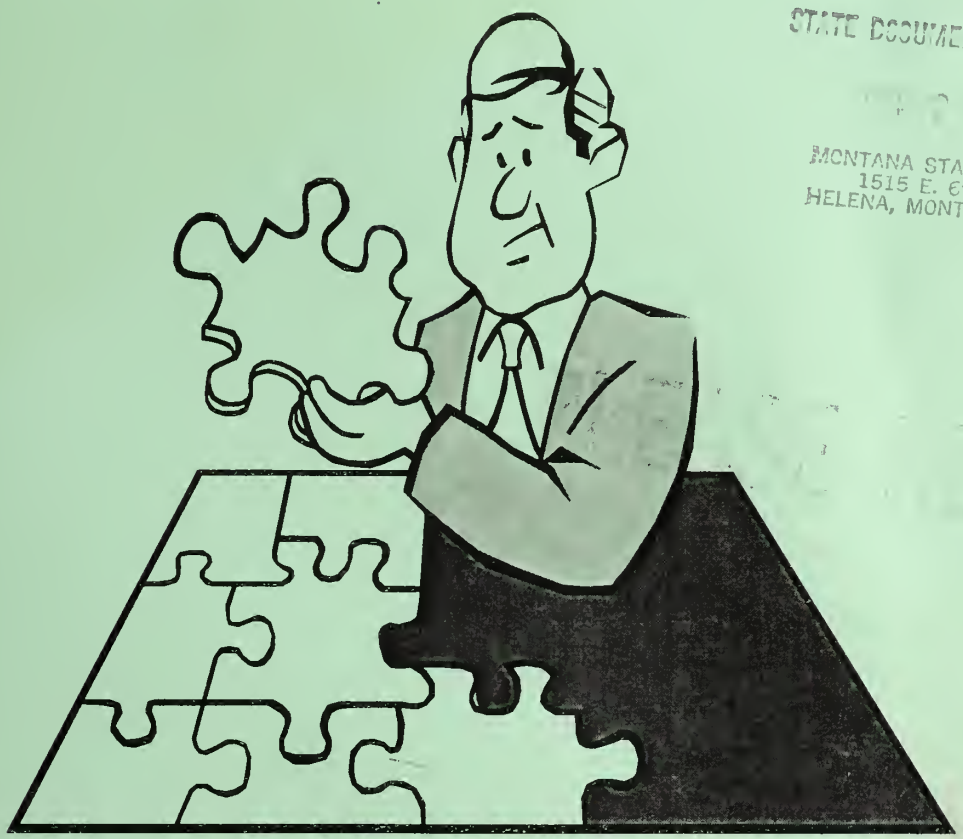
MONTANA
CADASTRAL MAPPING
STANDARDS

MONTANA CADASTRAL MAPPING STANDARDS



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INTRODUCTION

This manual has four goals. The first is to prepare a base for understanding the concepts and standards of the State Standard Cadastral Map System.

The second, prompted by numerous requests from county Appraisal/Assessment offices, is to provide the technical fundamentals of cadastral cartography for the training of new cartographers.

The third goal is to provide necessary, but often hard to find cadastral, legal and cartographic reference material such as conversion tables, geodetic tables, critical formulae, riparian charts, abbreviations and glossary of terms.

The fourth goal is to provide a balanced picture of the science and art of cadastral cartography. Some managers still assume a cadastral system can be produced and maintained by a draftsman possessing only drafting skills. This branch of mapping extends far beyond what has often been misconstrued as a mere drafting task. Cadastral cartography is an intellectual activity that requires a working knowledge of the fundamentals of a host of sciences and related professional activities, such as mathematics, surveying, geography, map interpretation, knowledge of deeds, deed interpretation and photogrammetry, rather than merely an exercise of reading deeds and drawing lines.

Cadastral cartography is the oldest form of mapping known to modern man, dating back to approximately 4000 B.C. Today, it dominates the cartographic world; not necessarily in a scholarly sense, but in sheer volume of maps produced. Yet very little has been published about cadastral cartography. That which has been published is so narrow in scope (dealing primarily with map format and content) as to render it useless as far as the technical elements of cadastral cartography are concerned.

This manual does not contain everything one would need to know about cadastral cartography. Rather, it is a **base of information** for identifying and understanding problems, and for making intelligent decisions on how to handle those problems. Basics alone will not suffice as a means of mastering the intricacies of cadastral cartography. We recommend extensive study of the sciences and professions related to this branch of cartography: higher mathematics, surveying, boundary control and legal principles, photogrammetry, computer-assisted graphics, real estate, general cartography, geodesy geography and ad valorem taxation.

The manuals basic information begins with a discussion in Chapter 1 of where information is found, how to construct and maintain maps, basic information on geocode and the basic informational diagrams utilized by the cartographer.

The rectangular survey system forms the geographical base of the cadastral map system. It is used extensively as the base for deed descriptions. Chapter 2 explains most of the fundamentals of the rectangular survey, and emphasizes specific elements that have been a constant source of problems in map construction and maintenance. In addition, the chapter provides specific legal opinions that must be considered in the mapping and

maintenance process.

Until a few years ago, there was little need for cartographers to be concerned about surveying. Now, with the advent of modern technology and Geographic Information Systems, the map-user community demands extreme accuracy in the geometry of the land-parcel polygons displayed on the map. This can be obtained only by utilizing surveys. Furthermore, the inclusion of the cadastral survey in the mapping process has resulted in increased map life, fewer taxpayer complaints and increased efficiency in the maintenance function. It is not essential for the cartographer to be a surveyor, but it is important to know about this science of measurements because the same science is applied in the cartographic process.

Chapter 2 introduces the basics of surveying; the types of surveys; the problems encountered and methods used in making field surveys. It places special emphasis on survey precision, accuracy, and sources and types of errors. These are survey elements that cartographers should understand, but often do not. Moreover, the error and quality factors in surveying are, with few exceptions, applicable to cadastral cartography. The chapter only touches on this complex science. The full scope of surveying, necessary to the registered surveyor, involves advanced and complex principles that extend far beyond the scope of this publication.

The cartographer must be adept in the mathematics of cadastral cartography. Mathematics is seldom a problem for the journeymen, but new cartographers, especially those with only drafting experience, usually find that they have forgotten many important mathematical rules and formulas. Chapter 3 reviews the mathematical rules and procedures needed to complete cadastral computations.

With the basic information discussed in the first three chapters, Chapter 4 discusses the different media used in the cartography field. This is followed by an in-depth examination in Chapter 5 of symbols and standards available to the cartographer.

Of upmost importance to any cartographer is a comprehensive knowledge of deeds and titles. In Chapter 6, the cartographer will be exposed to an overall view of the different types of deeds, titles and title transfers used. Finally, a brief discussion about the pitfalls of the Montana mapping systems and solutions addressing those pitfalls is discussed the final chapter.

CHAPTER 1

MAPPING PROCEDURES

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In any situation which requires the intricate detail, such as cadastral mapping, the individual must complete the necessary research and preparation to perform a competent and knowledgeable job. This chapter will discuss the basic collection of data and standards of cadastral mapping to help the cartographer perform their responsibilities.

COMPILING THE INFORMATION

Gather all information such as Bureau of Land Management (B.L.M.) maps, General Land Office (G.L.O.) maps, Certificates of Survey (C.O.S.), Subdivision Plats, Highway and Railroad Right-of-Way (R/W) maps, dedicated and undedicated additions, Master Title (M.T.) plats, Mining Claim Surveys, deed descriptions and deed exhibits, and corner recordation information. Review and study all maps collected to gain an understanding of the area to be mapped.

If the area is described as a metes and bounds or by quarter-section (aliquot parts), gather all current ownership information (deeds) and begin researching. Make sure all land described in the deed is included on the map. If the land is described by lot and block, you only need to refer to the deeds for ownership changes, unless a property overlaps or other problem exists.

Study all information researched in order to determine the scale of the map and the area to be covered by one map. The map scale should be large enough to show all ownership boundaries clearly.

MAP CONSTRUCTION

First, the mapping material must be selected and cut to size. For work maps, vellum may be used, but it is very prone to damage. Therefore, the recommended material is Mylar with a thickness of 4-5 mil. This should be cut in 30" x 42" rectangles for use in producing the inked base maps. It is important to try to stay with this size and thickness as a standard. It will save many problems later as the collection of finished maps grows.

After reviewing all the information gathered, the map scale must be determined. For urban areas or heavily congested areas, the recommended standard for a one section map is 1" = 200'. If it is a rural area, the recommended standard is to include four sections (i.e., sec. 1, 2, 11 and 12) on one map with a scale of 1" = 400'. Other scales may be used as the need arises in your specific county. However, the fewer scales you use, the fewer problems you will have in the future. The map scale should be large enough to show all boundaries clearly. It there are only one or two areas which are too small at the recommended scales, a larger scale inset may be included to the side of the map. But, once again, this usage should be kept to a minimum.

Depending on the complexity of the map to be drawn, a pencil draft on vellum may be necessary in order to solve any problems before inking. All pencil construction lines should be erased from the final draft on Mylar.

Corner recordation, along with any Certificates of Survey and any recorded Subdivision Plats, should be used as a basis for map control. Usually the bearings on these three sources will be in agreement. If no survey, subdivision or corner recordation is available, then use the G.L.O. map for section line distances and bearings. Some of the deeds may also include section line bearings in the description. Highway R/W maps also show bearings on section lines and distances from the highway centerline to the section corners.

Information can also be obtained about road, railroad and river locations from aerial photos and from United States Geological Survey (U.S.G.S.) topographic maps. These sources won't be at the same scale as the maps you will be drawing, but still have a major purpose. This is especially true in rural areas where you won't find a lot of control within the sections. Some of the smaller roads and many of the railroads and rivers can be plotted using these sources. Use the scales that are available for topos and photos and then calculate the distances for the scale being mapped, or use a "proportional divider". These can be purchased at a drafting supply store. It is basically an adjustable X shaped divider. Set one side of the divider to the scale of the source (photo or topo) and the other side to the scale of the map. When the source is measured for a distance, the other side of the divider will already be at the right length to mark the distance on the map.

After the framework of the map is established, add any surveys to the map along with any subdivisions. Then add any highways and railroads to the map. Check the highway and railroad R/W for surface ownership. Sometimes the surface is owned by the railroad or the governing agency for the highway (i.e. state, city, county) and sometimes they only have easements. An easement is only the right to cross, occupy and maintain a strip of land for a specific purpose. It doesn't convey ownership. These must be mapped differently than properties with outright ownership. This is usually done by using solid lines for ownership and a dashed line for easements. There are many variables concerning boundary lines. Refer to Chapter 5 (Legend and Symbols) for recommended line types. If there are any patented mining claims in the section they should be added at this time, along with any other metes and bounds descriptions and aliquot part ownership boundaries.

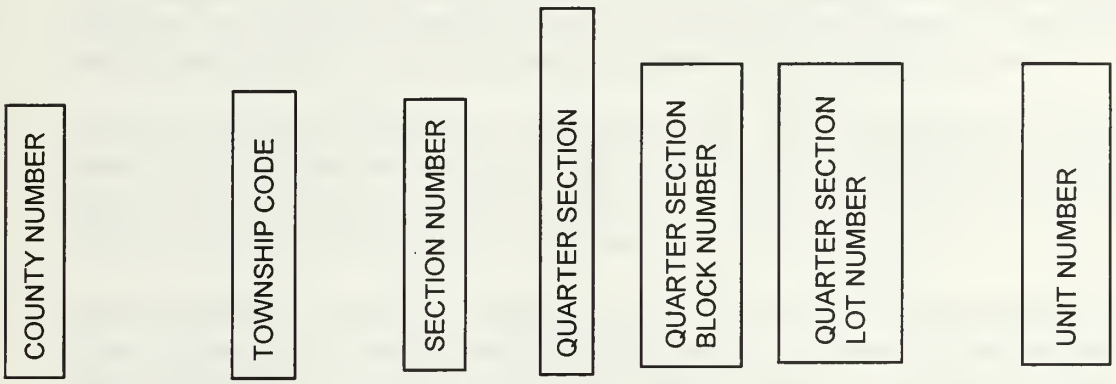
After all the current records are researched, and some parcels are still unaccounted for, then research into previous ownerships is required to determine who owns those parcels. A deed may describe a large parcel of land from which the owner sold several pieces to other people. His original deed would not truly reflect his current ownership. This portion of the research and mapping is difficult, especially when areas of parcels are not given. For this reason a file of all research material, including deeds and plats, should be kept in an orderly and retrievable manner.

The finished map should delineate all ownership boundaries and may have lot dimensions and acreages on the larger parcels of land. A geocode numbering system should then be added to a print of the map or, preferably, to a Mylar reproducible sepia. All Certificates of Surveys, subdivisions, tracts, lots and blocks, roads, and bodies of water, etc. should be labeled. Maps that border each other should accurately match as if they were one big puzzle, assuming they were drawn at the same scale.

Once the lettering sizes and scales are established, they should be continued throughout the mapping process. One very important factor in ownership mapping is keeping the maps consistent with each other. Also, a county index map should be used to show the coverage of each map and the progress in completed maps.

The geocode is a very unique identification number assigned to each individual ownership parcel in Montana. The following shows what information the geocode contains. For a more complete explanation, refer to the **Montana Appraisal Manual.**

HOW TO READ A GEOCODE NUMBER



03-0927-33-2-02-35-0000

COUNTY NUMBER: Each county in Montana has an assigned number. Yellowstone County is assigned 03.

TOWNSHIP CODE: Each township in Montana is assigned a code that covers both township and range. In this example 0927 is the code for T1S-R26E.

SECTION NUMBER: The number of the section within the township.

QUARTER SECTION NUMBER: Each quarter section is assigned a number.
NE¼=1 NW¼=2 SW¼=3 SE¼=4

QUARTER SECTION BLOCK NUMBER: This designates a "block" of ownership parcels. This usually follows the boundary of a city block, a survey or a farm tract. Each quarter section has its own set of block numbers.

QUARTER SECTION LOT NUMBER: Each contiguous individual ownership is assigned a "lot" number within the ownership block.

UNIT NUMBER: Identifies the property rights associated with the parcel. This is commonly used for condominiums, railroad leased properties, mobile home courts, and other situations where there are several taxable improvements on one ownership lot.

MAP STORAGE

One thing that needs to determined at the beginning of a mapping project is the method of map storage to be utilized. Four methods of storage are discussed here. They range from the cheapest (and worst) to the most expensive (and best).

1. The cheapest method, which costs nothing, is to just stack them on a corner table. This isn't an option you want to use, for many obvious reasons. They will be too easily damaged and will be impossible to keep in any retrievable order.

2. The next method of storage is a rolled map rack. With this method the maps are rolled up and inserted into slots in the rack. The only expense is the purchase of the map racks. The problem with this method is that a map rack will not provide adequate storage for the volume of maps to be produced.

3. The third method of storage is a flat file system. There is an initial expense involved in the purchase of the flat file cabinets, but it is still the cheapest of the methods that are recommended. A flat file cabinet has several drawers which are about 45" x 32" and are only 2" to 3" deep. They are large enough to lay maps into in a flat arrangement. They hold a large number of maps and keep them from most forms of damage. The maps need to be kept in geocode order and the drawers labeled for easy retrieval. The major problem with this system is the maps can be damaged in the process of inserting them back into the right location in the map stack. You must be very careful when inserting the maps. They are also going to undergo wear and tear in the process of sliding in and out of the map stack.

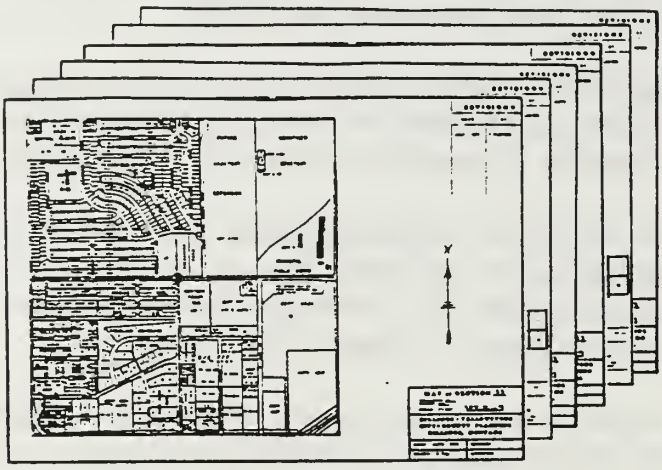
4. Therefore, the most recommended method of map storage is the hanging file system. This method also has the biggest expense, both initially and on an ongoing basis. The initial expense is the hanging file cabinet, which is expensive. The ongoing expense involves the rolls of perforated tape from which the maps hang. (See the diagram on the following page.) This is the best method to use because it causes absolutely no wear and tear on the maps. It is also usually a fire proof cabinet and offers the best overall protection for the maps. Also retrieval and replacement of the maps is far easier with this system. It is definitely worth the expense.

It is recommended that handling of original and geocoded mylars be limited to qualified personnel. Only blue line prints should be used for field work.

Keep in mind that if this chapter or any other chapter in this manual is difficult to understand, or if you just need help getting started, there are more experienced cartographers in the Property Assessment Division who will be glad to assist you. Give them a call.

RECOMMENDED FILE SYSTEMS

FLAT FILE SYSTEM

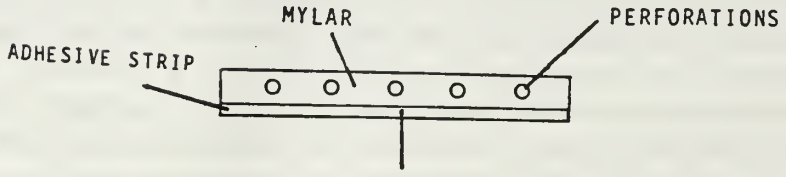


LAY IN DRAWERS

IN GEOCODE ORDER

HANGING FILE SYSTEM

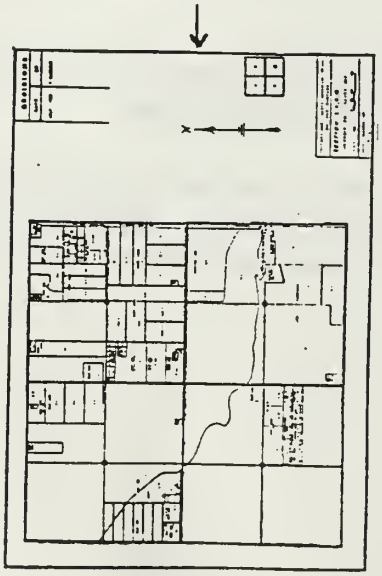
The holes should line up with the bars in the hanging file. Make sure when you cut the strip that it will line up correctly, then make sure you cut all the strips exactly the same.



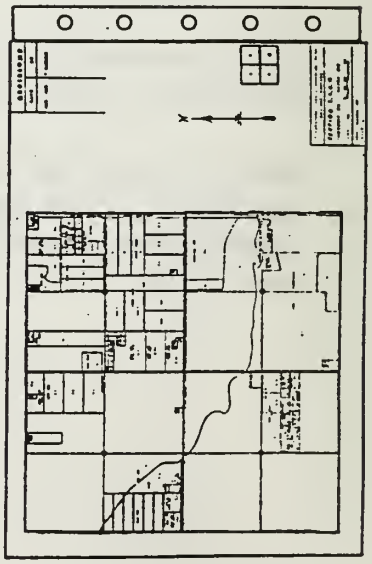
PLACE

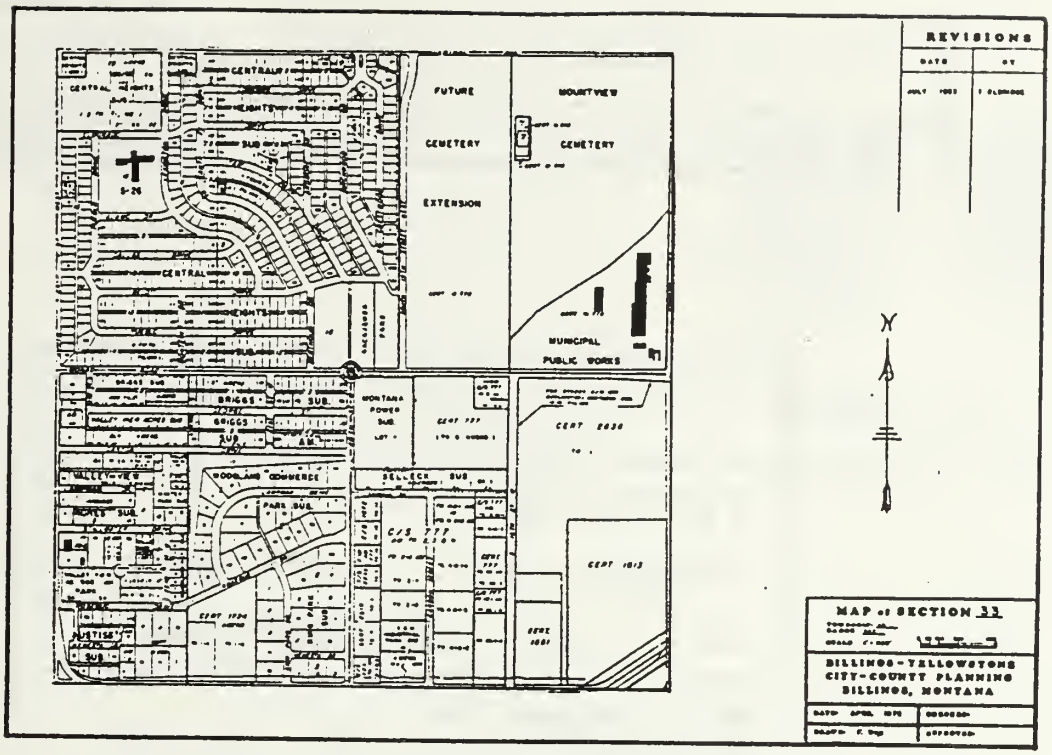
ADHESIVE STRIP ON

BACK SIDE OF RIGHT EDGE

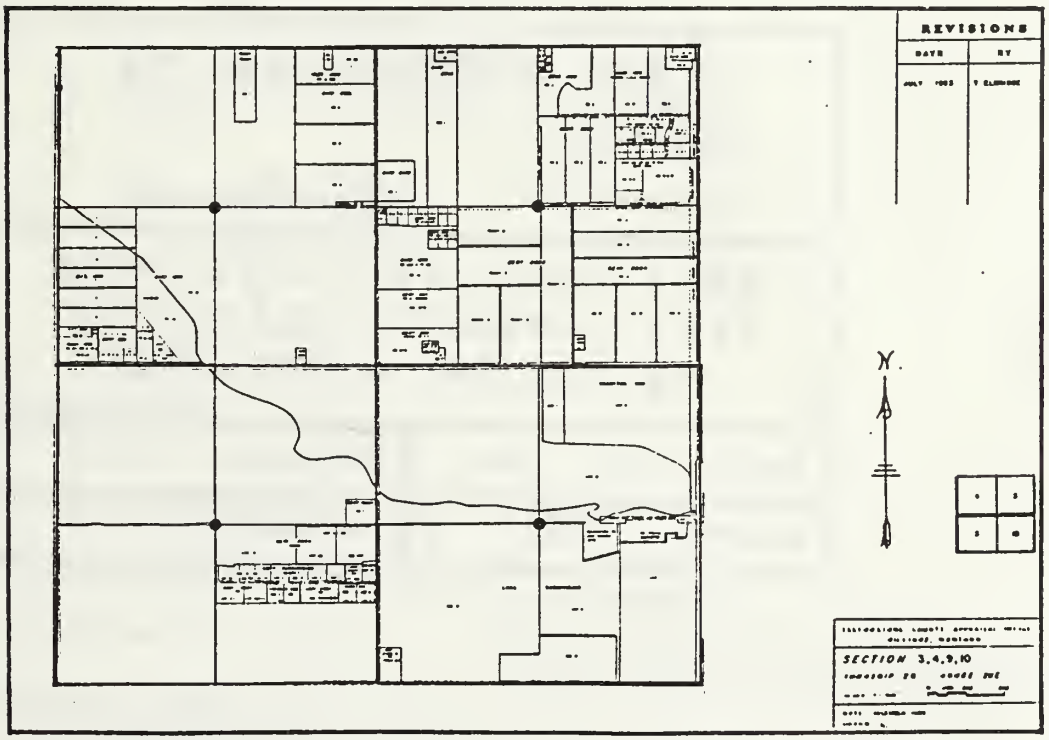


PLACE THE MAP IN THE HANGING FILE





TYPICAL ONE-SECTION MAP AT 1"=200' ON 30"x 42" MYLAR



TYPICAL FOUR SECTION MAP AT 1"=400' ON 30"x 42" MYLAR
NOTE THE SECTION INDEX ABOVE THE TITLE BLOCK

SECTIONS 15,22,27,34 - T2N-R8W			OWNERSHIP REF.
DR. BY: JIM GOEBEL	DATE: FEB. 1985	SCALE: 1" = 400'	DEPT. DEPARTMENT OF REVENUE RESIDENTIAL & COMMERCIAL BUREAU

YELLOWSTONE COUNTY APPRAISAL OFFICE
BILLINGS, MONTANA

SECTION 3,4,9,10

TOWNSHIP 2N RANGE 28E

SCALE: 1" = 400'

0 200 400 800

DATE: DECEMBER 1984

DRAWN: BRYAN

MAP of SECTION 33

TOWNSHIP: 1N
RANGE: 26E

SCALE: 1" = 200'

0 50 100 200 400

BILLINGS - YELLOWSTONE CITY - COUNTY PLANNING BILLINGS, MONTANA

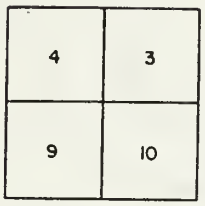
DATE: APRIL 1976	CHECKED:
DRAWN: F. Deis	APPROVED:

Typical title blocks. There is no standard title block. It is important that the key information is included on whatever title block you decide to use.

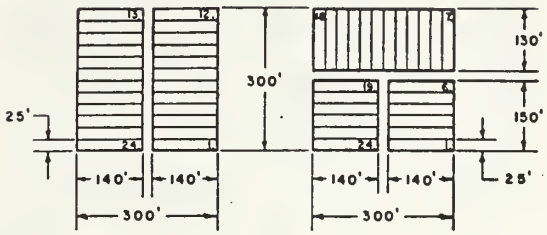
Typical items which you might want to use on the side of the map.
of the map.

REVISIONS	
DATE	BY
JUNE 1983	T. ELDRIDGE

Revisions log.



Section index for
4 section map.



Standard lots in
downtown area.

Note: This plat is for appraisal and assessment use only and does not represent a survey. No liability is assumed as to the accuracy of the data delineated herein.

Typical disclaimer stamp.

This should appear on all maps.

North arrow.

NOTES

- (A) UNPLATTED LAND
- (B) SECTION LINE JOGS IN THIS AREA
- (C) PORTION STILL EXISTING FROM ORIGINAL CLARK SUBDIVISION
- ····· 100 YEAR FLOOD PLAIN BOUNDARY
- ····· FLOODWAY BOUNDARY
- (23) DESIGNATES AMENDMENTS TO ORIGINAL FLANAGAN SUBDIVISION LOTS. NUMBER INDICATES ORIGINAL LOT NUMBER.
- OUT / IN BILLINGS CITY LIMITS

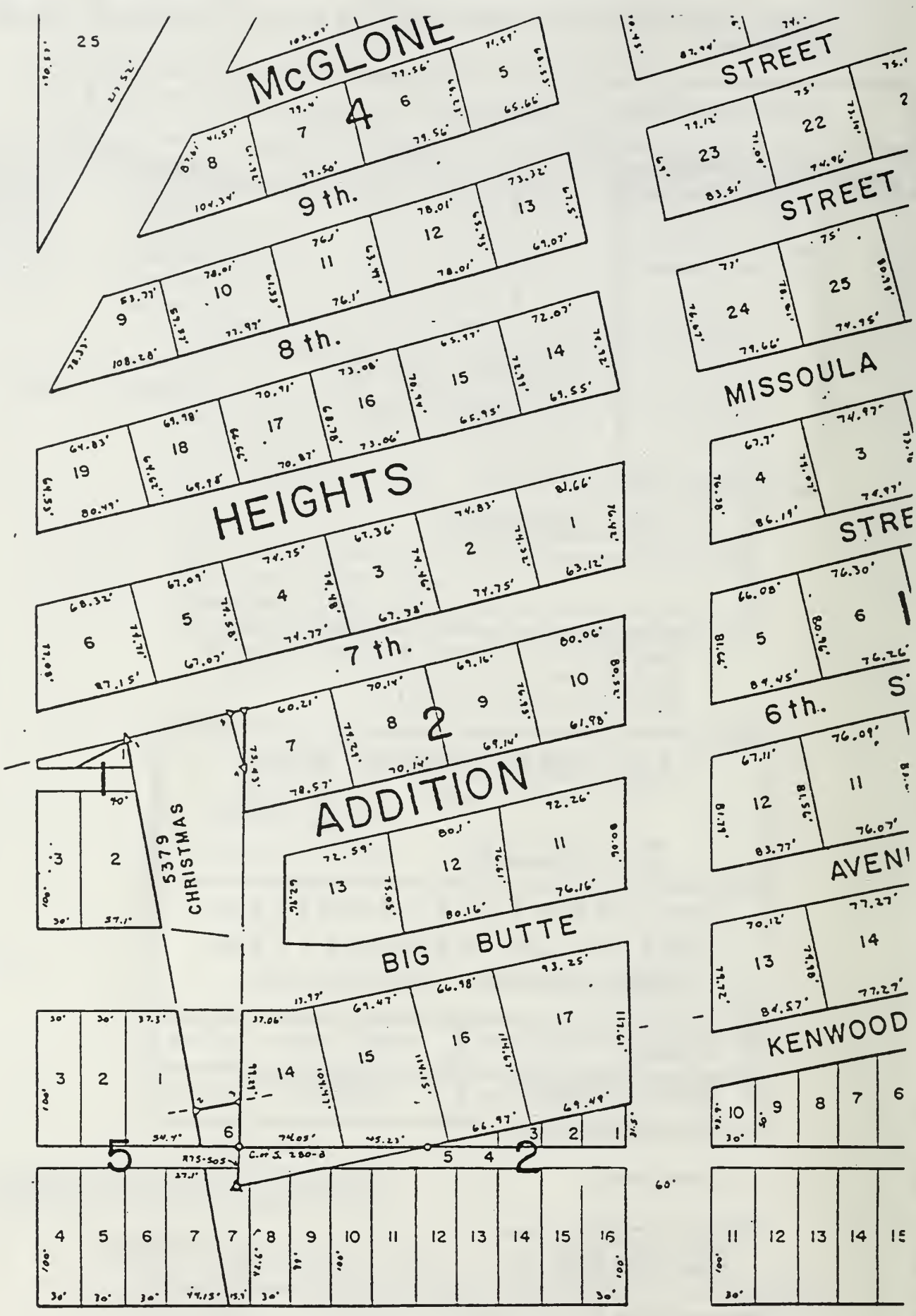
NOTES

- (A) UNPLATTED LAND
- ACCESS ROAD

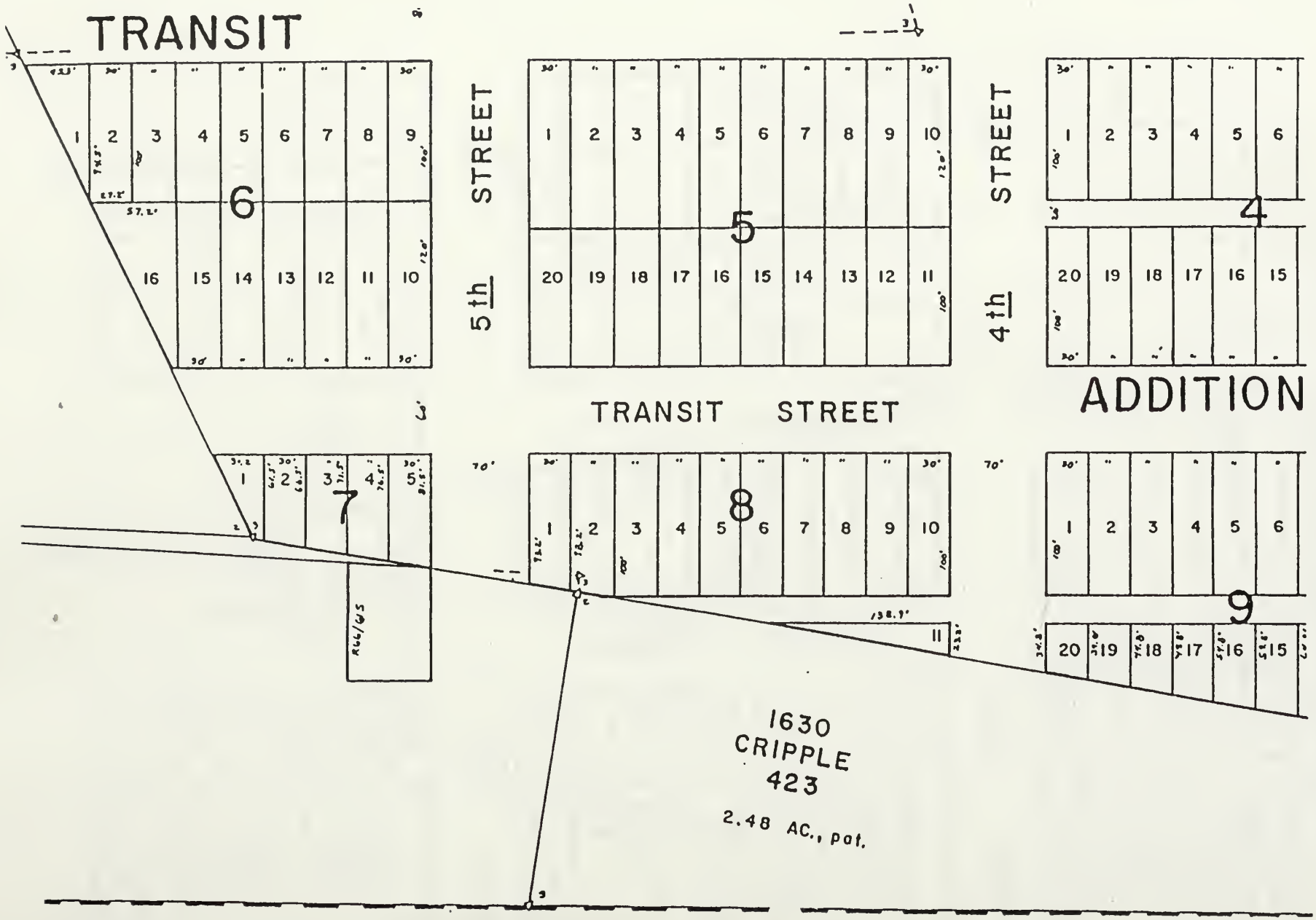
5/s 1402 and 5/s 1783 I suspect have been surveyed using an incorrect beginning point (162.62' too far west). I have therefore drawn these surveys in what I calculate to be their intended correct position. Jim Thomas Oct. 20, 1988

- ····· 100 YEAR FLOOD PLAIN BOUNDARY
- ····· FLOODWAY BOUNDARY

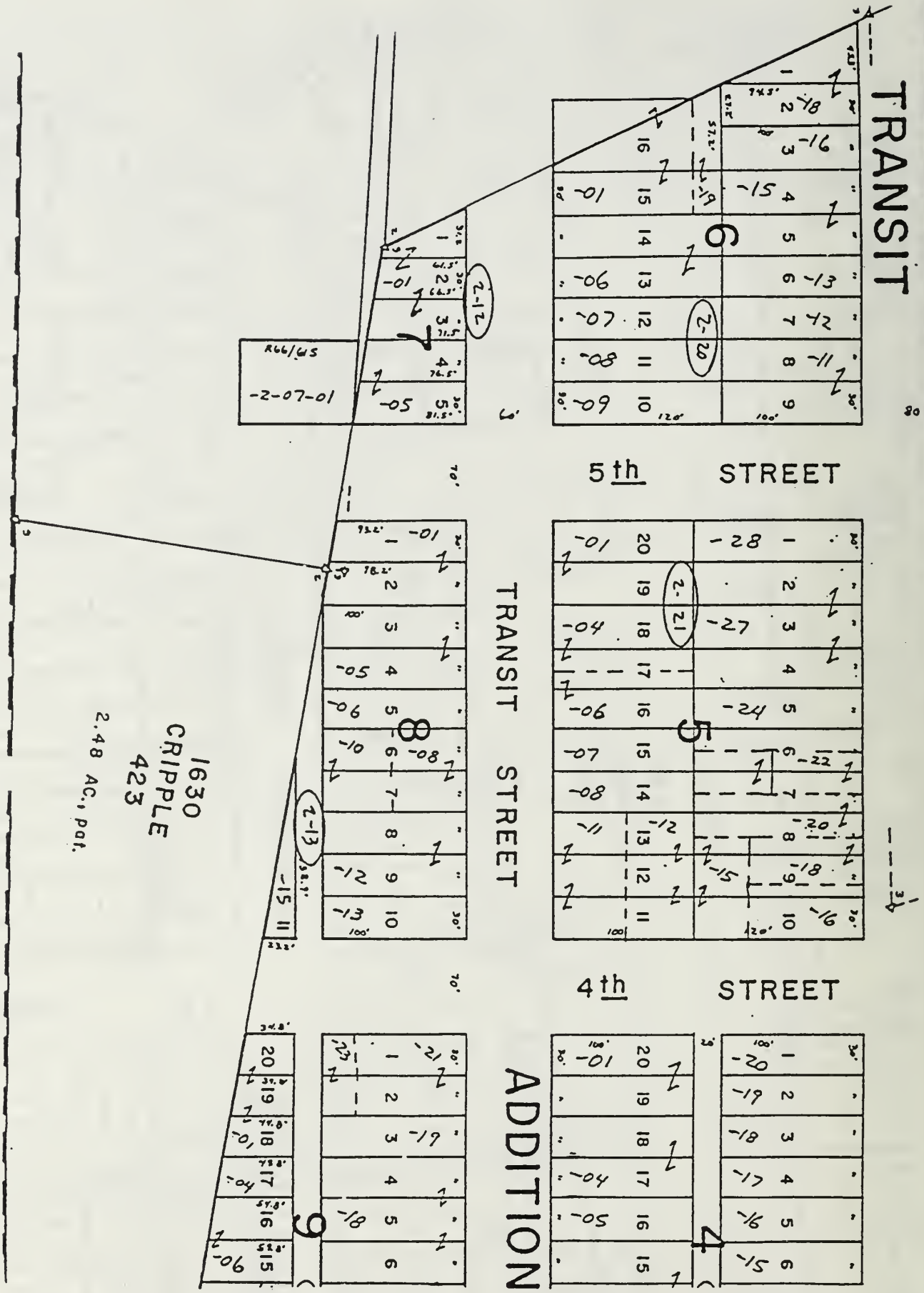
Typical notes.



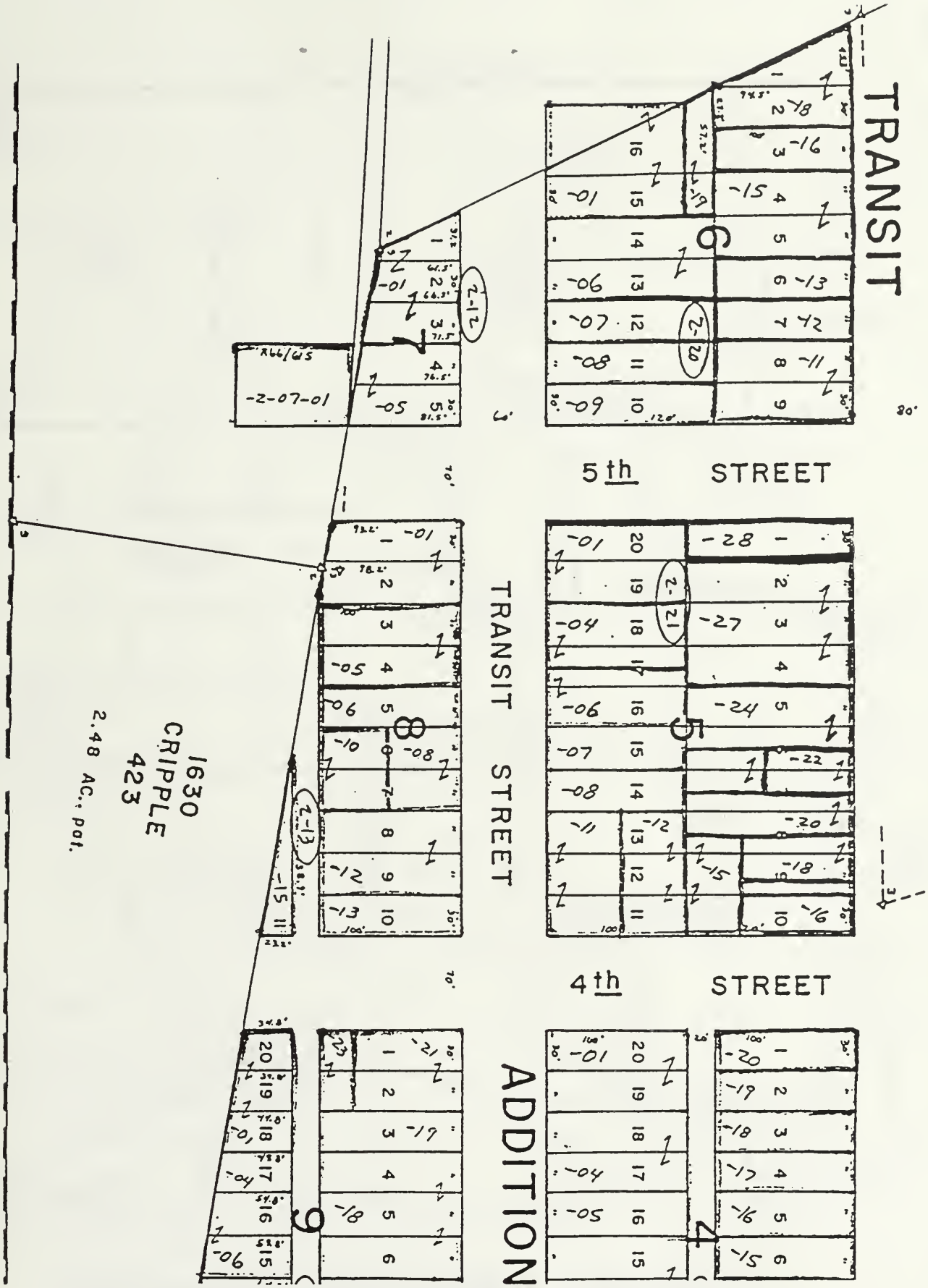
This is an example of a legal base map with irregular block shapes and substantial use of dimension labels.



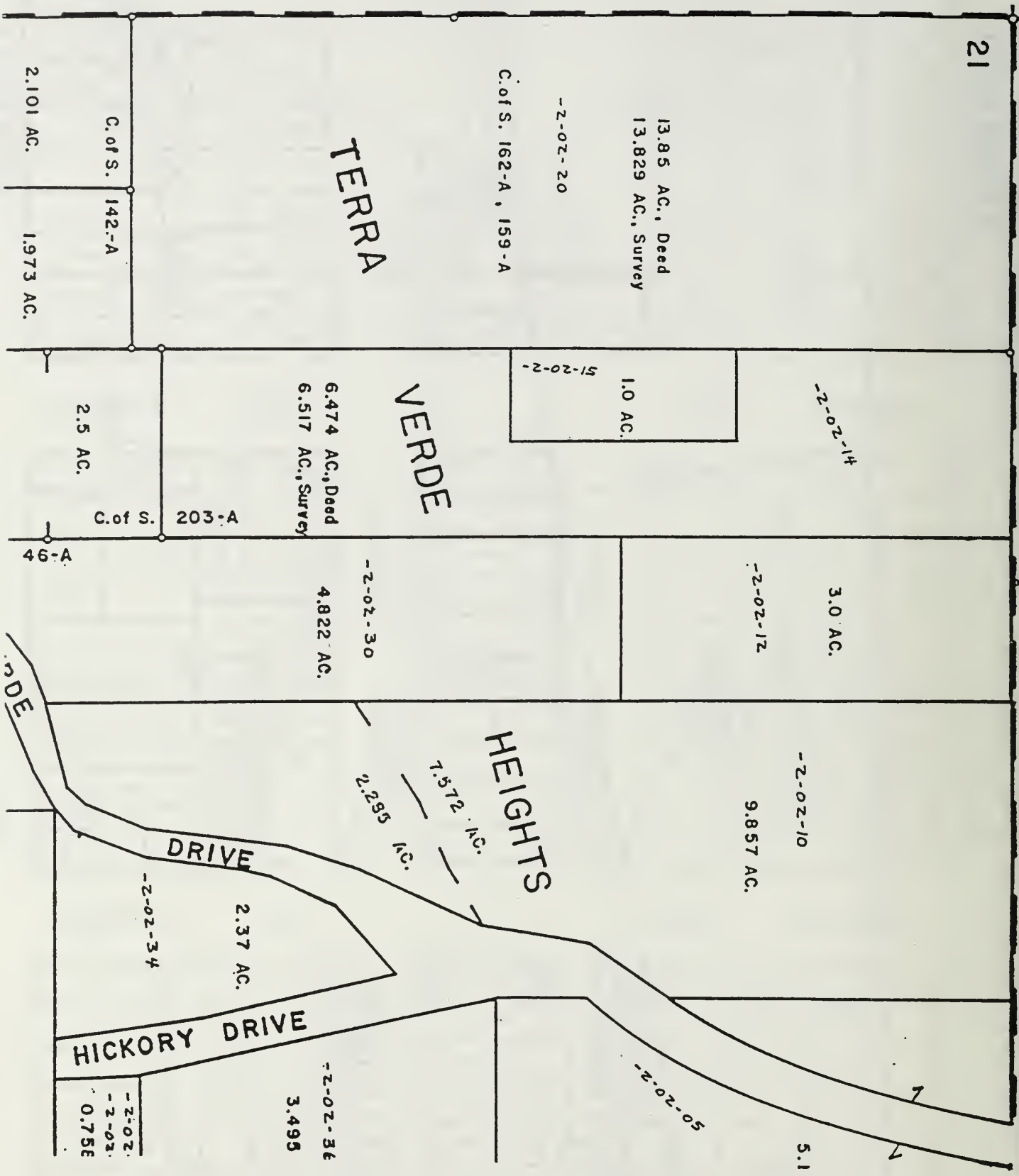
This is an example of a legal base map with regular shaped blocks and minimal dimension labeling.



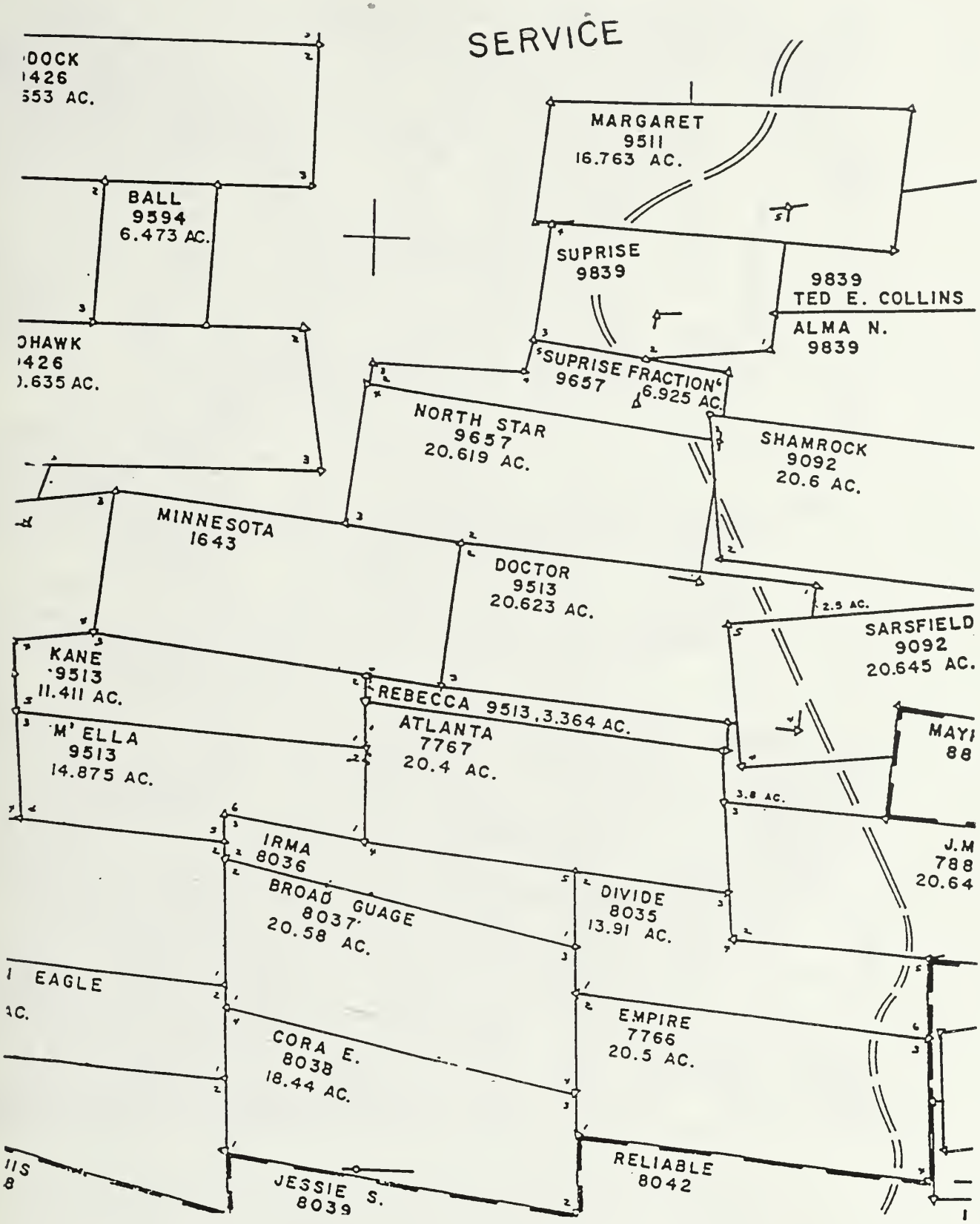
This is an example of a blue-line print from a geocoded mylar reproducable. Notice the dashed lines to show ownership boundaries and the crows feet to show combined lot ownership.



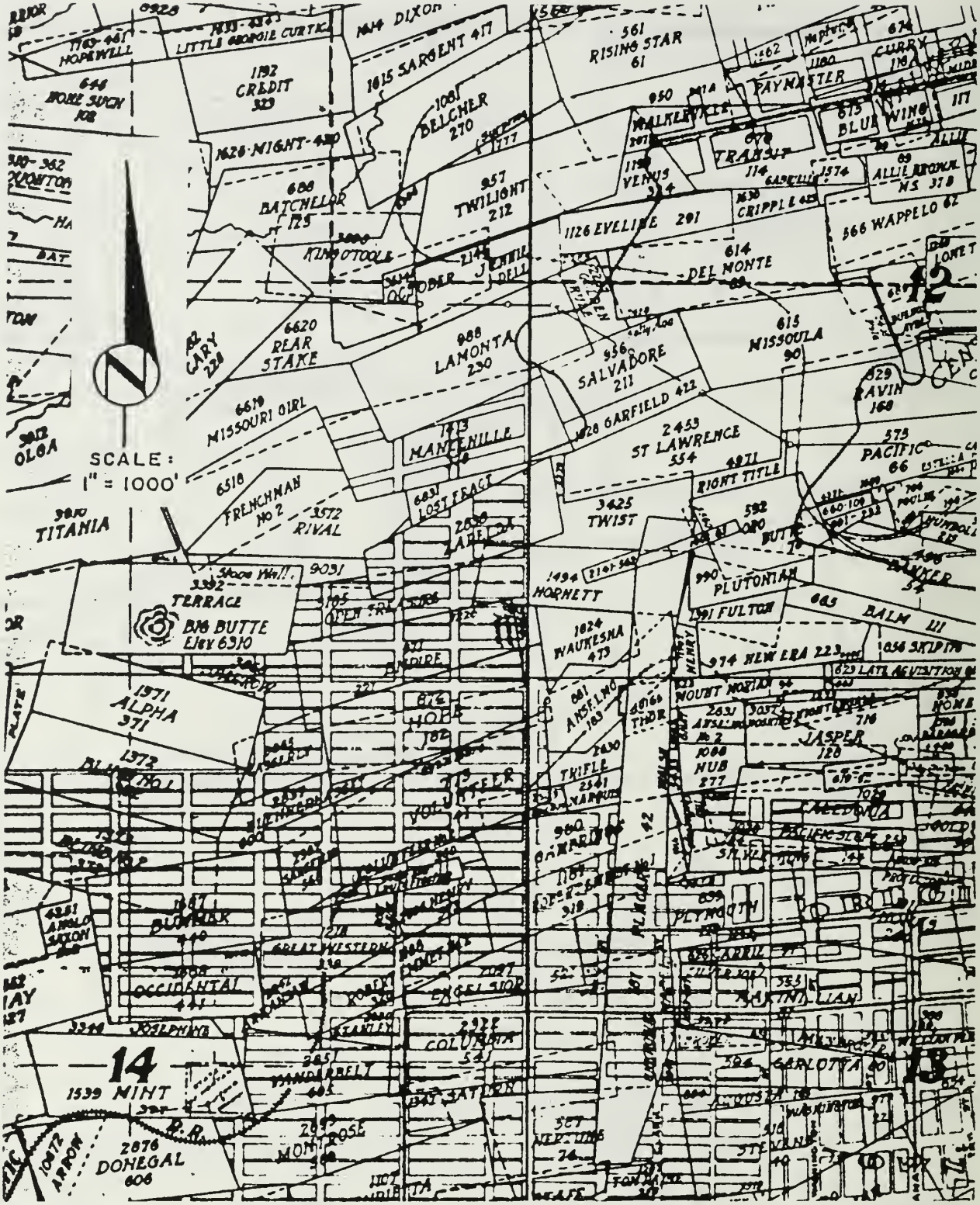
This is an example of a blue-line print with the geocode boundaries darkened to make it stand out. This is traditionally done with colored pencils in the colors listed in the Montana Appraisal Manual.



This is an example of a map with larger tracts showing no dimensions but showing acreage.



This map shows mining claims at a larger scale allowing room to include any geocoding info etc..



This map shows the general location of mining claims underlying the uptown area of Butte at a scale of 1"=1000'. The ownership maps of this area were drawn at a 1"=100' scale, allowing one quarter section per map. This is an example of an area where the standard scales mentioned in this chapter were not usable and a different scale was used to allow room for both the labels and the geocodes.

CHAPTER 2

SURVEYS AND DIRECTION

Every cartographer involved in ownership mapping should be aware of basic surveying techniques and procedures. The theory and practice of land surveying is beyond the scope of this chapter. However, the following is an explanation of the surveys used and how they are utilized in constructing an ownership map.

Some of the information and surveys used in ownership mapping are: Bureau of Land Management (B.L.M.) Maps, General Land Office (G.L.O.) Maps, Certificates of Survey (C.O.S.), Subdivision Maps, Mining Claim Surveys, Master Title (M.T.) Plats, deed descriptions and deed exhibits (metes and bounds) and corner recordation information.

GENERAL LAND OFFICE MAPS (G.L.O.)

The G.L.O. maps were the first maps produced showing the size of sections in the township. The maps were drawn in the office from field survey notes. The surveyors first surveyed the township lines, then section lines were surveyed starting at the south-east corner of the township and working to the north and west. Consequently, the sections bordering the north and west lines of the township were either slightly longer or shorter. This created govemment lots (anything other than the normal 40 acre tract) along the north and west township lines. Occasionally some of the townships did not line up, and the township correction corners, or offset corners, were created. Sometimes the sections within the township did not line up, and correction comers were created within the township boundaries. When a river or stream traveled through a section, government lots were created on each side of the stream. Each section line has a bearing and a distance shown in chains. Eighty chains equal one mile or 5280 feet. The acreage is also noted in each section. The distances and bearings and most of the original surveys are usually reasonably accurate compared to the newer resurveys.

Large rocks or stones were set into the ground for marking the section and quarter section corners. These stones were about 4" x 6" x 14" in size and set into the ground with about 4" above the ground. Slash marks were then chiseled into the stones or "corners" indicating their location. Quarter corners were marked with ¼ usually on the north or west side of the stone.

G.L.O. surveys were started around the 1850's and continued through the early 1900's. Sometime around 1910 the govemment began to set monuments or "brass caps" alongside the existing stones and in areas unsurveyed. Some rugged areas of Montana are still unsurveyed. A complete township map may be covered by one map, or there may be several maps.

Hachure marks on the G.L.O. maps indicate the direction of slope and will show drainages, flat areas, hills and mountain peaks. Today the topographic map indicates the elevation and contours of the land. **(See map sample on Page 30)**

CERTIFICATES OF SURVEY

These official surveys are filed in the Clerk and Recorder's Office and usually indicate a property boundary. There is a wealth of information on these maps and it should be used to check distances and bearings on existing maps. The G.L.O. and C.O.S. maps are the building blocks of ownership maps. The C.O.S. boundary should be adapted to the ownership map with reference to that particular survey number. Occasionally the C.O.S. will clarify an earlier error in a deed description. A copy of all the surveys should be kept in the cartographer's office for reference and a list of all the surveys and subdivision should be kept.

Surveys shown in deeds solidify the description found in that deed and usually have a tie down to an established point, which assures control on the map. **(See map sample on Page 31)**

CONVENIENCE MAPS

A convenience map is an area that may have been mapped but is not on record with the Clerk and Recorder's Office. In some cases these areas may have been given a subdivision name as well as block and lot designations. Since these areas are not on record as a platted subdivision, a metes and bounds or aliquot parts legal description is required. Caution should be used when mapping these situations so as not to imply they are legally platted. **(See map sample on Pages 32 & 33)**

CORNER RECORDATION

The recording information on section lines and corners helps lay out the basic framework of the ownership map. The bearings and distances between "found" corners by land surveyors are recorded in the Clerk and Recorder's Office. The cartographer should use this information when constructing the map, along with surveys, subdivisions, G.L.O. surveys and mining claim maps. **(See map sample on Page 34)**

MINING CLAIM SURVEYS

In areas involving mining claims, a survey and plat of the claim or claims was required to be filed by the patentee. These are usually shown on the G.L.O. plats. The BLM office usually has each claim on microfilm according to the survey number. The Master Title Plat (M.T.) is an index map for all government lots and mining claims, and should be reviewed before laying out the township or sections. The M.T. Plat shows the patent number of the property in question when it transferred from government to private ownership. These patent numbers are also referenced in a township and range order. Mining claims will usually create government lots surrounding the claims. On overlapping mining claims, the claim with the earliest patent number reserves the surface rights. Always check to make sure that the claim is a patented claim. Unpatented claims have a claim on the minerals only, until it makes patent. Then it would claim the surface rights also. **(See map sample on Page 35)**

METES AND BOUNDS

The State of Montana has produced a booklet called An Introduction to Legal Descriptions. This manual will direct the inexperienced cartographer in handling basic metes and bounds descriptions. It is important that the cartographer be proficient in handling legal descriptions as the ownership map is completely compiled of legal descriptions, from very basic legal descriptions to very complex metes and bounds descriptions with many courses.

Definition of Terms

The location and limits of a tract of land may be defined by describing its boundaries by: (1) naming natural or artificial monuments to, from or along which they run; (2) stating the lengths and directions of the lines connecting successive monuments; or (3) giving the boundaries of abutting tracts of land.

A monument may consist of an object or mark which serves to identify the location of a line constituting a part of the boundary. It may be either natural such as a river, lake, ledge of rock, tree or ridge; or artificial such as a wall, fence, ditch, marked stone or post.

The type of metes and bounds description most commonly used in land orders and proclamations is based upon actual survey of the tract of land involved. The lengths and directions of the lines forming the boundaries are ascertained by the survey and the record thereof describes the monuments marking the corners or angle points. The plat and field notes furnish the data for the description.

If the lines of an adjoining tract of land form a common boundary with the tract in question, the description should note this fact, identifying the adjoining tract by the name of the owner, survey designation, or other appropriate means.

Direction of Lines

The direction of a line in land surveying is generally expressed by giving the angle from the meridian within one of the four quadrants, referred to either the north or the south point as may be appropriate. When so expressed (e.g. N. 70° 19' E.; S. 24° 10' W.), it is called the "bearing" of the line.

Lengths of Lines

In land surveying, horizontal distances are generally measured and recorded at the mean elevation of the ground. In some cases a general ground level datum may be used for an entire survey or group of surveys. However, in geodetic surveys, the horizontal distances are adjusted to sea level.

Unit of Measurement

The foot unit is used in many metes and bounds surveys and in townsite and city subdivisions. The chain was the linear unit in the public land surveys. The meter is now employed in some cadastral surveys. To determine definite equivalents see examples in this chapter.

Conventional Symbols and Abbreviations

The conventional symbols for degrees (°), minutes (') and seconds (") of arc should usually be employed in giving the direction of lines.

The abbreviations for the units most frequently used are:

Chains(s)	ch., chs.
Link(s)	lk., lks.
Foot (feet)	ft.

Sequence and Closure

The bearing and distances of the courses connecting the turning points or corners of a tract are usually given in regular order around the perimeter thereof. Each course is written on a separate line and if any corner or course is coincident with a corner or course of another tract, notation should be made of this fact. The final course should note the return to the place or point of beginning.

An exception to the foregoing is found in the description of a tract of specified width on each side of a definitely described center line such as a right of way. In such a case the terminal point as well as the beginning point should be fully identified.

Point of Beginning

The location of a tract of land may be defined by stating its position in relation to established monuments of known position or by stating its geographic position (latitude and longitude). In metes and bounds descriptions this is generally accomplished by a complete description of the point of beginning. The information furnished should be sufficient to enable a competent surveyor to locate and identify the initial point. Frequently a statement regarding nearby topographic or cultural features or objects is of great value. The general location (state, county, etc.) is usually given in the first part of the land order or proclamation and need not be repeated in the description.

If the point of beginning is an established corner of an official survey or is connected by survey to such a corner, the later should be described by corner and survey number or other appropriate designation without detailed description of the monument itself. The latitude and longitude should be given unless the beginning point is a corner of the public land rectangular surveys or connected by survey to such a corner.

Natural and Artificial Boundaries

Occasionally the boundaries of a tract are defined entirely or in part by natural monuments, such as streams, lakes, divides, or straight lines connecting prominent features of topography. In such cases it is essential that each boundary be described so definitely and specifically that there is no uncertainty as to its identification.

In the case of a stream or river the middle of the channel or one bank is usually specified. Facing downstream, the bank on the left hand is termed the left bank and that on the right hand the right bank. Where lakes, large rivers, or tidal waters are involved, the intended elevation or stage of water should be specified, such as low-water mark, mean high-water mark, or mean high tide.

Similarly, in referring to a natural monument such as a divide or peak, or to such permanent artificial monuments as highways, railroads, ditches, the specific line or point intended to be used should be described with sufficient particularity as to be capable of definite identification on the ground.

In connection with the type of boundaries just referred to, it is important that the agency preparing the land order or proclamation consider not only the technical sufficiency and form of the description but the feasibility and practicability of the boundary from the viewpoint of proper administration. For example, the selection of a boundary described as paralleling a railroad or highway at a distance of five miles therefrom should be avoided as such a line would be difficult to establish and impracticable from an administrative standpoint.

Public Land Tracts by Perimeter

The proper form of description for lands within the scope of the public land rectangular survey is the tabular form discussed later in this chapter. By using the direct nomenclature of that system, the description can be compared with the land status records and other records of the Bureau of Land Management. However, in localities where the public land surveys are largely incomplete and where it is administratively desirable that part of the boundaries follow natural monuments such as rivers or divides, an exception to the above stated rule is sometimes made. In such situations the land in question may be described in whole or in part by specifying its boundaries around the perimeter thereof as following certain township, section, or minor subdivision lines. The unsurveyed areas are subject to adjustment to the subdivisions shown upon the plats of survey after approval.

Area

A statement of the tract usually follows the description and in most cases is expressed in acres. Where justified by the accuracy of the survey, the value should be carried to the nearest hundredth of an acre. Approximate areas should be indicated as such and given in even acres.

Examples of Metes and Bounds Descriptions

Example 1:

Beginning at comer No. 1, a hemlock post, 4 in. square, 24 in. above ground, located on the Takotna Highway about 1/4 mile southeasterly from its intersection with the left bank of Kuskokwim River and in approximate latitude 62°52' N., longitude 155°40' W. Corner No. 2 of U.S. Survey 999 bears N.26°59' W., 327.6 ft.

From corner No. 1, by metes an bounds,

* S. 25°43' W., 1900 ft., to corner No. 2;
* S. 57°30' W., 3000 ft., to corner No. 3;
* S. 32°30' E., 830 ft., to corner No. 4;
* N. 57°30' E., 4000 ft., to corner No. 5;
* N. 25°43' E., 1650 ft., to corner No. 6;
* N. 34°17' W., 550 ft., to corner No. 7;
* S. 85°38 W., 871.6 ft., to corner No. 1, the place of beginning.

The tract as described contains 121.66 acres

Example 2:

Beginning at corner No. 1, on the south shore of Humboldt Harbor, at mean high tide, in latitude 55°19'12" N., longitude 160°31'07" W., from which U.S. Location Monument No. 1146 bears S. 79°32'51" W., 28.44 chs. distance.

From the initial point

* South, 13.44 chs. to corner No. 2, identical with corner No. 3, U.S. Survey No. 1400; N. 67°41' E., 15.93 chs. to corner No. 3;
* North 13.44 chs. to comer No. 4 on south shore of Humboldt Harbor at mean high tide; Thence with meanders of Humboldt Harbor at mean high tide,
* S. 70°26' W., 2.60 chs.
* S. 0°15' W., 1.50 chs.,
* S. 59°31' W., 1.50 chs.,
* S. 73°02' W., 5.0 chs.,
* S. 75°22' W., 2.50 chs.,
* S. 77°39' W., 3.90 chs to corner No. 1, the place of beginning. The tract as described contains 18.65 acres.

Example 3:

Beginning at the northerly corner of Parcel No. 1 on the boundary of Land Court Application 900, the azimuth (measured clockwise from south) and distance to United States Military Reservation Monument No. 67 is 161°52', 2,352.64 feet, the coordinates of monument No. 67, referred to Government Triangulation Station "Uka" being 5,263.18 feet north and 10,120.63 feet west.

From the initial point by azimuths and distances,

* 351°54', 1,183.36 feet, along Land Court Application 900 to a point;
* 161°46'30", 334.59 feet, along the new west side of Kamehameha Highway, to a point;
* On a curve to the right, with a radius of 1,969.86 feet, long chord azimuth and distance being 166°39'20", 335.19 feet, to a point on said highway;
* 187°44'08", 123.07 feet, along the highway to a point;
* On a curve to the left along the highway, with a radius of 1,472.50 feet, long chord azimuth and distance being 179°49'04", 405.68 feet to the point of beginning.
* The tract as shown on map No. _____ dated _____ on file in the office of the Department of Engineer, Fort _____, Territory of Hawaii, contains 1,195 acres.

Example 4:

* Beginning at the confluence of the Chvilnuk and Yukon rivers in approximate latitude 61°58'15" N., longitude 162°48'20 W.,
* Thence northeasterly upstream along the center of Chvilnuk River to its source in the Tundadula Mountains;
* Easterly along the summit of the Tundadula Mountains to the source of the Bonasila River;
* Southeasterly downstream along the middle of the main channel of the Bonasila River to its junction with the Stuyahok River;
* Southeasterly upstream along the middle of the main channel of the Stuyahok River to a point due west of the source of Mountain Creek;
* East to the source of Mountain Creek;
* Southerly downstream along the center of Mountain Creek to its junction with Tucker's Slough;
* Southerly along the center of Tucker's Slough to its junction with the Yukon River;
* Southerly and westerly downstream along the right bank of the main channel of the Yukon River at mean high-water mark to the mouth of the Chvilnuk River and the place of beginning;

The tract as described contains approximately 1,900,000 acres.

Example 5:

Gila and Salt River Meridian

* Beginning at the corner of Secs. 5, 6, 31, and 32, Tps. 17 and 18 S., R. 3 W., on the southern boundary of the Papago Indian Reservation;
* Thence south approximately 5½ miles to the International Boundary between the United States and Mexico;
* Northwesterly along the International Boundary to intersection with the position for the third meridional section line through unsurveyed T. 17 S., R. 8 W.;
* North on the third meridional section line through Tps. 17, 16, 15, and 14 S., R. 8 W., (unsurveyed), to the point for the corner of Secs. 15, 16, 21, and 22;
* East on the third latitudinal section line through Tps. 14 S., Rs. 8, 7, 6, and 5 W., (partly unsurveyed), to the comer of Secs. 13, 18, 19, and 24, Tps. 14 S, Rs. 4 and 5 W., on the west boundary of the Papago Indian Reservation;
* Southerly along the boundary of the Papago Indian Reservation to the place of beginning.

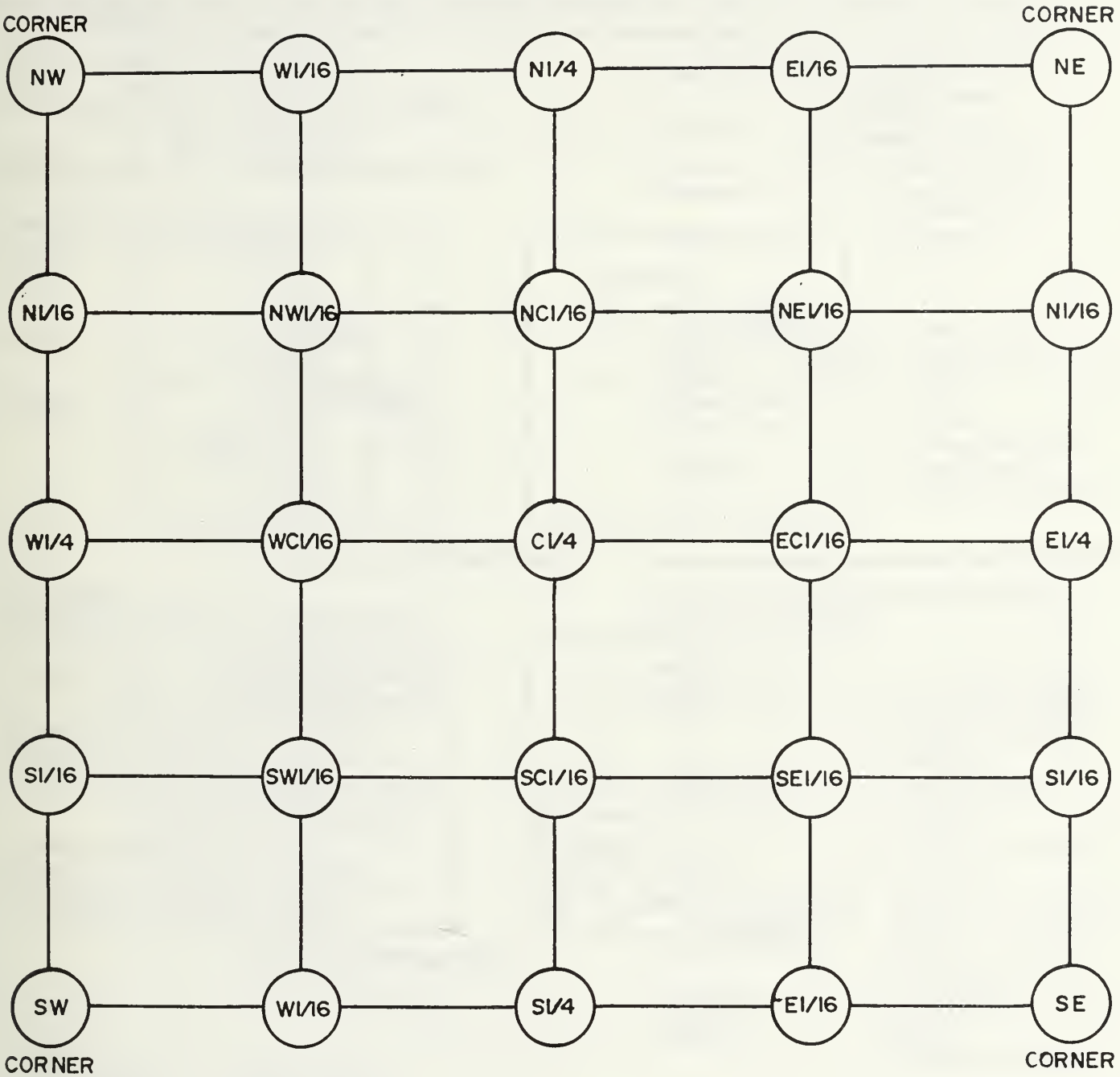
The area as described contains approximately 330,700 acres subject to adjustment to lines of public land surveys.

Example 6:

A right of way 40 ft. wide, the center line of which is described as follows:

* Beginning at station No. 1, on the boundary between the United States Military Reservation and Land Court application 1000 (amended), from which the azimuth and distance to United States Military Reservation Monument No. 80 is 182°36'40", 6.55 ft.
* From station No. 1, by azimuths and distances,
  - 109°55'48", 444.2 ft. to station No. 2;
  - 159°44'10", 183.8 ft. to station No. 3;
  - 209°07'56", 208.3 ft. to station No. 4;
  - 139°02'05", 414.6 ft. to station No. 5;
  - 173°38'45", 325.5 ft. to station No. 6;
  - 201°43'50", 505.9 ft. to station No. 7;
  - 156°57'40", 435.1 ft. to station No. 8;
  - 186°41'20", 477.9 ft. to station No. 9;
  - 165°16'45", 345.4 ft. to station No. 10;
  - 187°43'20", 1092.1 ft. to station R 1, at the southern intersection of the center of the Honolulu-Waialua road with the Military Reservation boundary between monuments No. 79 and No. 80, and being determined by the following azimuths and distances;
    - To monument No. 79, 351°53'12", 2179.0 ft.;
    - To monument No. 80, 171°53'12", 3930.2 ft.;
* The right of way is shown on map No. _____ in the office of the Judge Advocate, Honolulu, State of Hawaii, dated _____, file No. _____

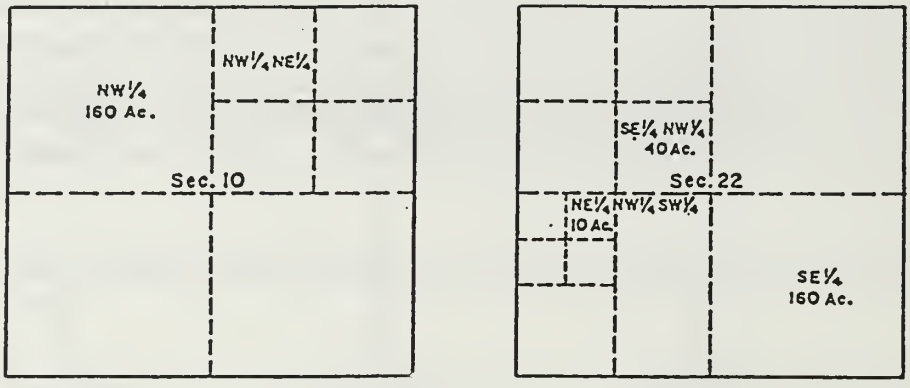
SECTION


CORNER
CORNER
NW
W1/16
N1/4
E1/16
NE
N1/16
NW1/16
NC1/16
NE1/16
N1/16
W1/4
WC1/16
C1/4
EC1/16
E1/4
S1/16
SW1/16
SC1/16
SE1/16
S1/16
SW
W1/16
S1/4
E1/16
SE
CORNER
CORNER

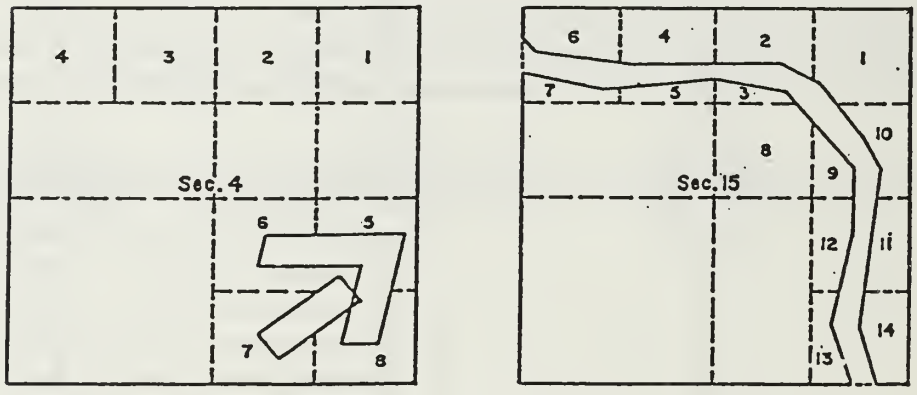
ABBREVIATIONS

The words "township" and "range" and the designations "north" or "south," "east" or "west" are sometim written in full when used in the text, but the land description itself should be in tabular form and these ter abbreviated and capitalized where appropriate. The principal abbreviations are as follows:

Township(s)	T., Tps.
Range(s)	R., Rs.
Section(s)	sec., secs.
North	N.
Northeast	NE., etc.



Normal subdivisional units.



Fractional lots.

TABLE OF LAND MEASUREMENTS

Linear Measure

1 inch	= .0833 feet
12 inches (in or ")	= 1 foot (ft or ')
3 feet	= 1 yard (yd)
5 ½ yards	= 1 rod (rd), pole, or perch (16 ½ feet)
40 rods	= 1 furlong (fur)
6076.11549 feet	= 1 international nautical mile

Gunter's or Surveyor's Chain Measure

7.92 inches	= 1 link
25 links	= 16 ½ feet
	= 1 rod
	= 5 ½ yards
100 links	= 1 chain (ch)
	= 4 rods
	= 66 feet
80 chains	= 1 statute mile (mi)
	= 320 rods
	= 1,000 links
	= 5,280 feet
	= 1,760 yards
1 vara	= 33 inches
	= 2 1/4 feet

Area measure

144 square inches (sq in)	= 1 square foot (sq ft)
9 square feet	= 1 square yard
	= 1,296 square inches
30 1/4 square yards	= 1 square rod
	= 272 1/4 square feet
16 square rods	= 1 square chain
1 square chain	= 4,356 square feet
160 square rods	= 1 acre
	= 4,840 square yards
	= 43,560 square feet
10 square chains	= 1 acre
640 acres	= 1 square mile
1 mile square	= 1 section of land
6 miles square	= 1 township
	= 36 sections
	= 36 square miles
1 square mile	= 2.59 square kilometers

An acre is:

43,560 square feet	660 feet x 66 feet
165 feet x 264 feet	160 square rods
198 feet x 220 feet	208'8" square

or any rectangular tract, of which the product of the length and width totals 43,560 square feet.

METRIC SYSTEM MEASUREMENTS

Linear Measure

10 millimeters (mm)	= 1 centimeter (cm)
10 centimeters	= 1 decimeter (dm)
	= 100 millimeters
10 decimeters	= 1 meter (m)
	= 1,000 millimeters
10 meters	= 1 dekameter (dam)
10 dekameters	= 1 hectometer (hm)
	= 100 meters
10 hectometers	= 1 kilometer (km)
	1,000 meters

Area Measure

100 square millimeters	= 1 square centimeter
10,000 square centimeters	= 1 square meter
	= 1,000,000 square millimeters
100 square meters	= 1 are (a)
100 square ares	= 1 hectare (ha)
	= 10,000 square meters
100 hectares	= 1 square kilometer
	= 1,000,000 square meters

EQUIVALENTS BETWEEN ENGLISH & METRIC SYSTEMS OF MEASURE

Lengths

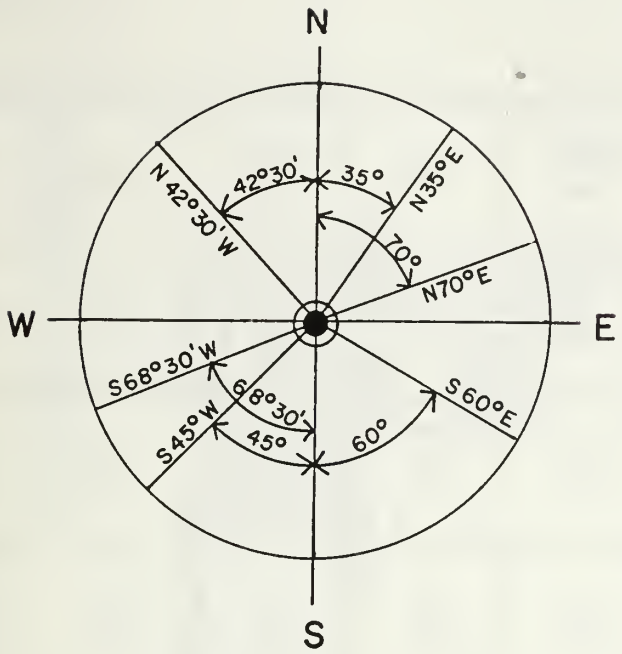
angstrom	= 0.1 nanometer (exactly)
	= 0.000 1 micron (exactly)
	= 0.000 000 1 millimeter (exactly)
	= 0.000 000 004 inch
1 cable's length	= 120 fathoms
	= 720 feet
	= 219.456 meters (exactly)
1 centimeter	= .3937 inch
1 chain (Gunter's or surveyor's)	= 66 feet
	= 20.1168 meters (exactly)
1 chain (engineer's)	= 100 feet
	= 30.48 meters (exactly)
1 decimeter	= 3.937 inches
1 dekameter	= 32.808 feet
1 fathom	= 6 feet
	= 1.8288 meters (exactly)

EQUIVALENTS - continued:

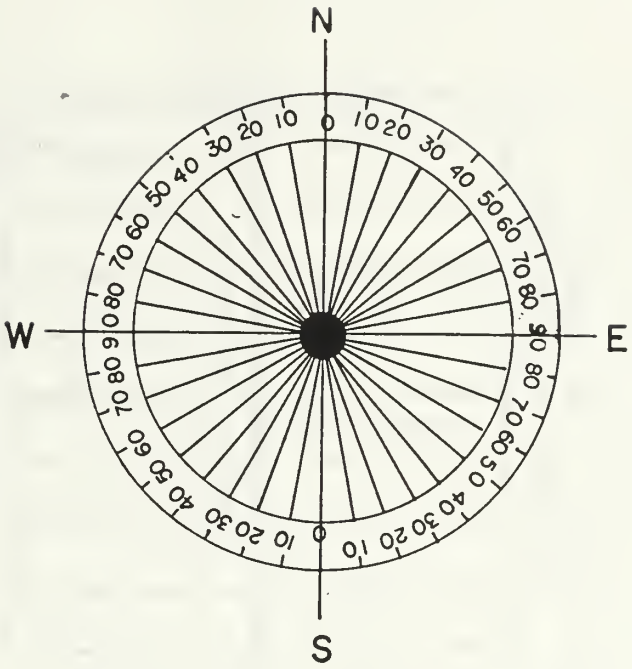
1 foot (ft)	= 0.3048 meters (exactly)
1 inch (in)	= 2.54 centimeters (exactly)
1 kilometer (km)	= 0.621 mile
	= 3,280.8 feet
1 league (land)	= 3 statute miles
	= 4.828 kilometers
1 link (surveyor's)	= 7.92 inches
	= 0.201meter
1 link (engineer's)	= 1 foot
	= 0.305 meter
1 meter	= 39.37 inches
	= 1.094 yards
1 mile (statute or land)	= 5,280 feet
	= 1.609 kilometers (exactly)
1 international nautical mile (INM)	= 1.852 kilometers (exactly)
	= 1.150779 statute miles
	= 6,076.11549 feet
1 rod, pole, or perch	= 16 ½ feet
	= 5 ½ yards
	= 5.029 meters
1 yard	= 0.9144 meter (exactly)

Areas or Surfaces

1 acre	= 43,560 square feet
	= 4,840 square yards
	= 0.405 hectare
1 are (100 square meter)	= 119.599 square yards
	= 0.025 acre
1 hectare (10,000 sq m)	= 2.471 acres
[1square (building)]	= 100 square feet
1 square centimeter	= 0.155 square inch
1 square decimeter	= 15.500 square inches
1 square food	= 929.030 square centimeters
1 square inch	= 6,452 square centimeters
1 square kilometer	= 247.105 acres
	= 0.386 square mile
	= 1,196 square yards
1 square meter (sq m)	= 10.764 square feet
1 square mile	= 640 acres or 258.999 hectares
1 square millimeter	= 0.002 square inch
1 square rod, pole, perch	= 25.293 square meters
1 square yard	= .0836 square meter

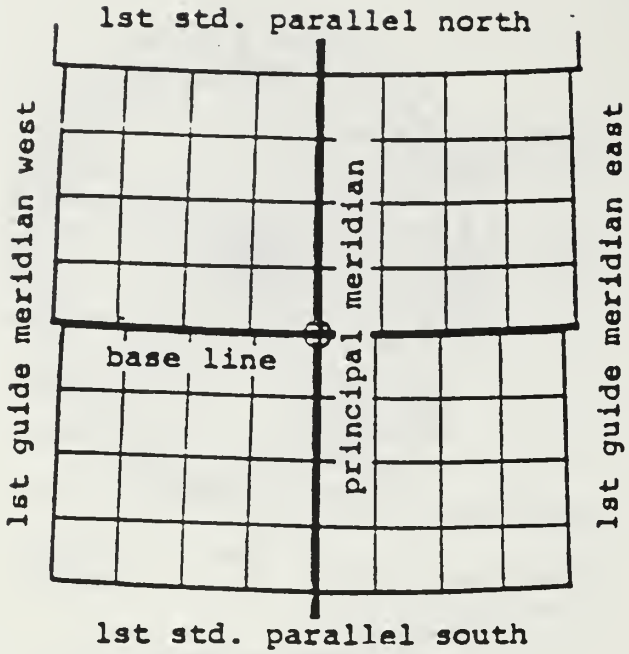


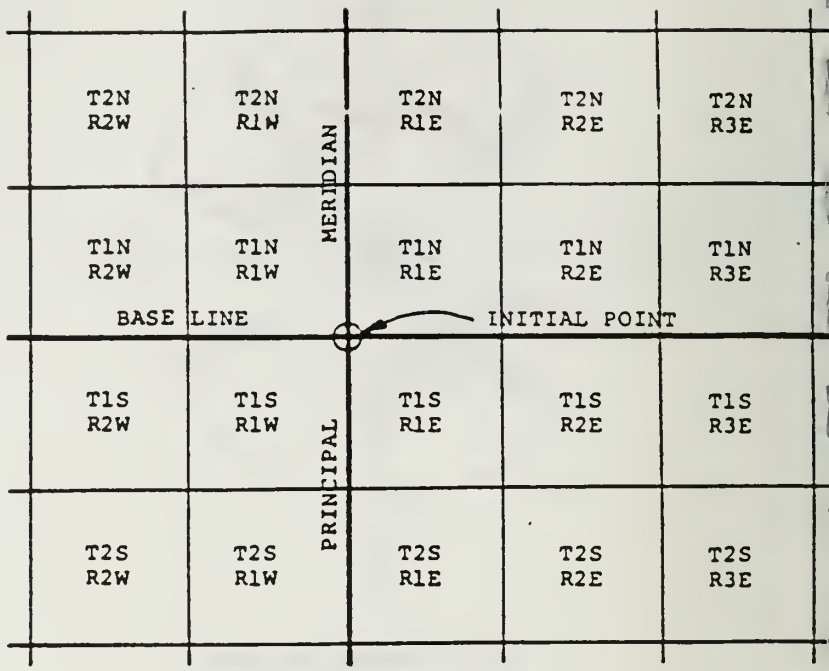
60 seconds equal one minute
60 minutes equal one degree



90 degrees in a right angle
360 degrees in a circle

4 furlongs 40 ch. 160 rds. 2640 feet 4 furlongs **NW1/4** 160 ACRES 40 chains 160 rods				2 furlongs 160 rods **NE1/4** 80 ACRES 80 rods	20 chains 2640 feet 80 ACRES 1320 feet
10 chains	2 furlongs 20 ACRES 1320 feet	660 ft. 20 AC.	40 rods 20 AC. 20 chains	20 chains 80 rods 40 ACRES N.W.S.E. **SW1/4**	80 rods 20 chains 40 ACRES N.E.S.E. **SE1/4**
1 fur.	20 chains 20 ACRES 80 rods				
40 rds. 5 ACRES	20 rds	330 ft.	1 furlong 10A	10 chains 10A	20 chains S.W.S.E. 40 ACRES	1320 feet S.E.S.E. 40 ACRES
660 ft. 5 ACRES	5A	5A				
10A 1 fur.	10A 10 ch.		10A 40 rds.	10A 660 ft.	1320 feet	2 furlongs





Diagrams showing division of land into Townships.

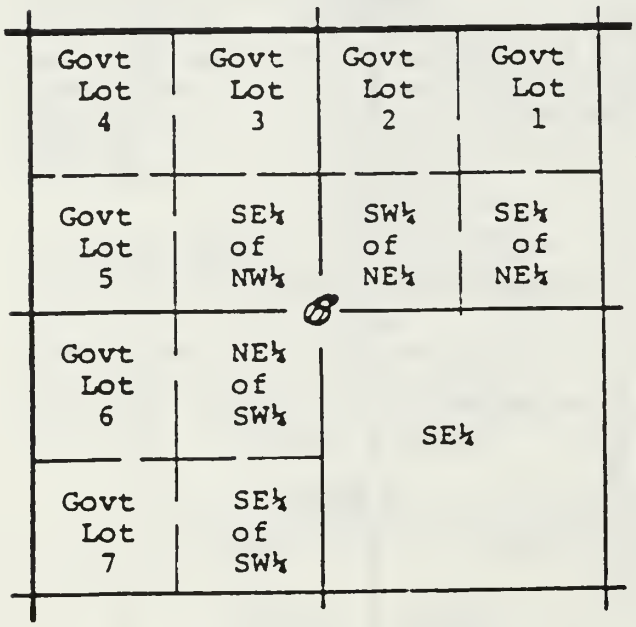
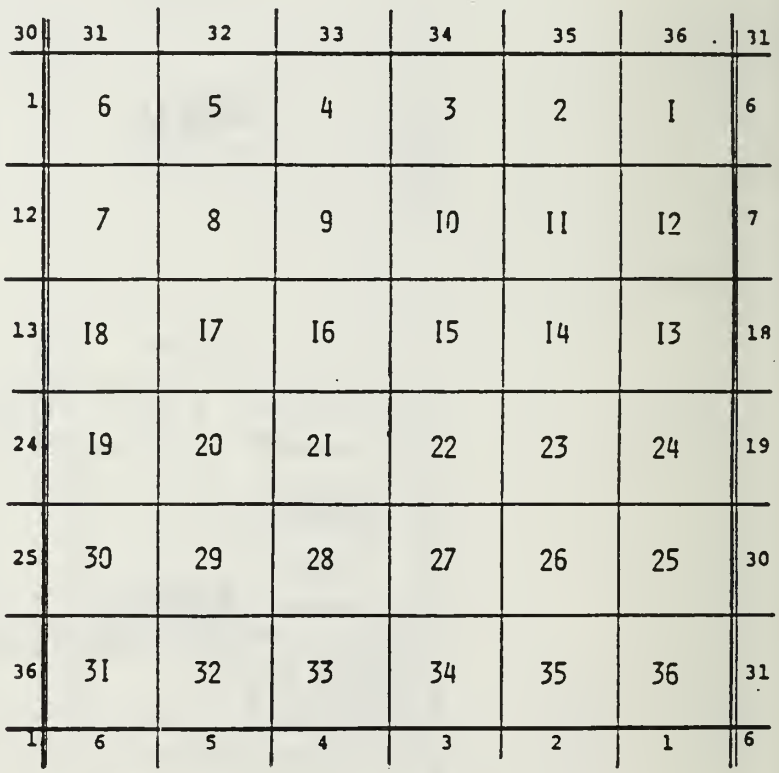


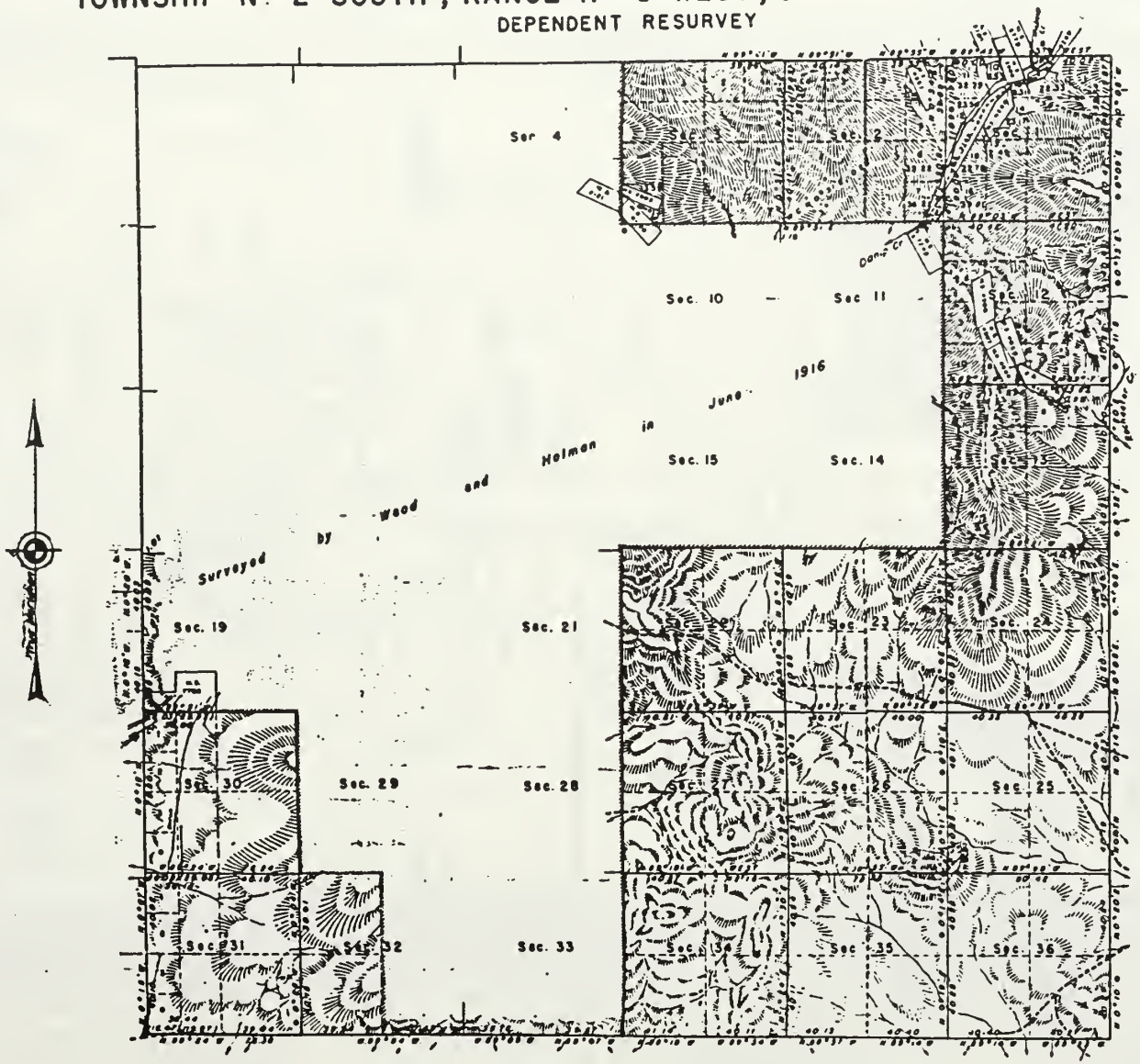
Diagram illustrating division of section into Government Lots.



Sectional map of Township showing adjoining sections.

TOWNSHIP Nº 2 SOUTH, RANGE Nº 8 WEST, OF THE PRINCIPAL MERIDIAN, MONTANA.

DEPENDENT RESURVEY



G.L.O PLAT

List of Patented Mineral Claims

Survey No.	Name
3779	Stonewall Lode
3780	Keystone Lode
3902	Blue Eyed Nellie Lode
3908	Twin Pine Lode
4120	Buckeroll Lode
4121	Copper Bottom Lode
4267	Washington Lode
4783	Henry Lode
4868	See Frecchce Lode
4906	Moss Lode
4907	Moss Fraction Lode
4908	Old Abe Lode
4909	Red Rock Lode
4910	Seeders Lode
5269	Gold Bure Lode
5250	Hill Placer
7269	Gerryesse Lode
7785	Pennsylvania Placer

This plat represents a retracement and re-establishment of portions of the original township boundaries and subdivisional lines designed to restore all corners in their original locations according to the best available evidence. The lettings and areas are as shown on the plats approved March 17, 1884, August 27, 1892, December 17, 1892, August 19, 1893 and December 10, 1917, except as new areas are shown hereon.

Resurvey executed by William E. Bandy June 11 to June 30, 1943, under special instructions for Group 398, dated July 31, 1941.

443
Area Resurveyed: 10,[illegible].92 Acres

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Washington, D. C., June 9, 1950

This plat is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

William F. Richards

Chief, Branch of Surveys

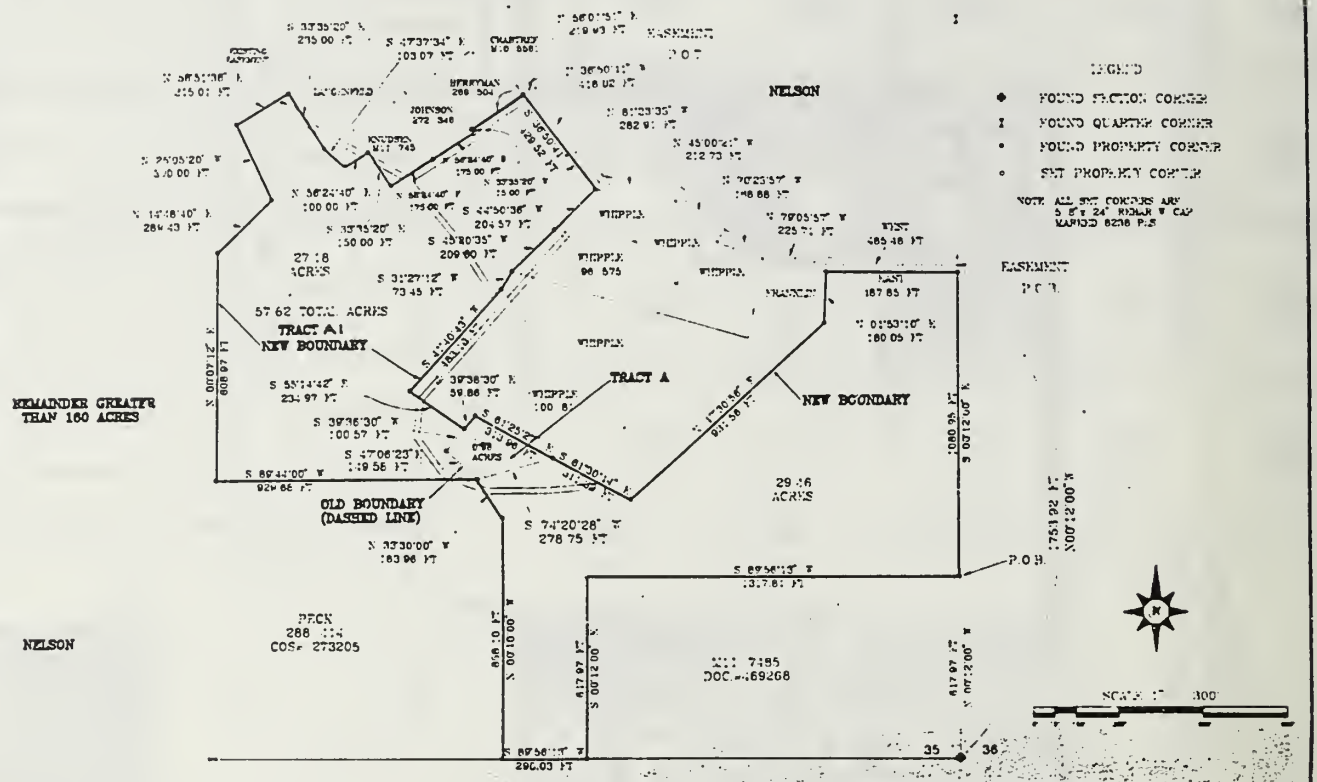
PAULETTE DEHART CLK & REC
LEWIS & CLARK CO
HELENA, MT

96 FEB 27 AM 10: 13

BOOK 1___ PAGE ___
BY Shirley McIntosh
600
+ 602

CERTIFICATE OF SURVEY

LOCATED IN THE SE1/4 OF SECTION 35, T18N-R7W P.M.M., LEWIS & CLARK COUNTY FOR: BRUCE NELSON HOMES INC. AND STEVE KELLOGG



CERTIFICATE OF OWNERSHIP

We, the undersigned property owners, do hereby certify that we have caused to be surveyed and subdivided, the following described tract of land in Lewis & Clark County, Montana, to-wit: "Tract A1

Commencing at the Section corner common to Sections 35 and 36, T18N-R7W, Lewis and Clark County, thence N00°12'00"W - 847.97 feet to the Point of Beginning; thence S89°56'13"W - 1317.81 feet; thence S00°12'00"E - 847.97 feet; thence S89°56'13"W - 298.03 feet; thence N00°10'00"W - 856.10 feet; thence N33°30'00"W - 183.96 feet; thence S89°44'00"W - 929.68 feet; thence N00°07'12"E - 808.97 feet; thence N44°48'40"E - 288.43 feet; thence N15°08'20"W - 300.00 feet; thence N58°51'20"E - 215.01 feet; thence S33°35'20"E - 235.00 feet; thence S47°37'34"E - 103.07 feet; thence N56°24'40"E - 150.00 feet; thence S33°35'20"E - 150.00 feet; thence N56°24'40"E - 175.00 feet; thence N33°35'20"W - 15.00 feet; thence N56°01'51"E - 218.93 feet; thence S36°30'41"E - 429.52 feet; thence S45°20'35"W - 209.60 feet; thence S31°27'12"W - 73.45 feet; thence S41°40'43"W - 483.10 feet; thence S55°14'42"E - 234.97 feet; thence N39°36'30"E - 59.86 feet; thence S81°25'27"E - 313.96 feet; thence S81°30'44"E - 311.32 feet; thence N47°30'30"E - 931.58 feet; thence N01°53'16"E - 180.05 feet; thence East 467.85 feet; thence S00°12'00"E - 1080.95 feet to the Point of Beginning containing 57.62 Acres

DESCRIPTION OF CENTERLINE OF 50 FOOT WIDE ACCESS EASEMENT

Commencing at the Section corner common to Sections 35 and 36; thence N00°12'00"W - 1753.92 feet to the Point of Beginning, thence West - 485.48 feet; thence N79°05'57"W - 225.71 feet; thence N70°23'57"W - 198.88 feet; thence N45°00'21"W - 212.73 feet; thence N81°23'35"W - 282.91 feet; thence N36°30'41"W - 418.02 feet to the Point of Terminus

CERTIFICATE OF EXEMPTION

We do hereby certify that the purpose of this survey is for the relocation of common boundaries between adjoining properties outside of platted subdivision; therefore this survey is exempt from review as a subdivision pursuant to Section 76-4-207 (1) (4) MCA

Dated this 26 day of Sept., 1995

Stephen C. Kellogg
Stephen C. Kellogg

STATE OF MONTANA
County of Lewis & Clark } ss

On this 26 day of Sept., 1995 before me, Notary Public for the State of Montana, personally appeared Steve Kellogg known to me to be the person who executed the foregoing certificate of Ownership, and he acknowledged to me that he executed the same.

My comm. expires 1-3-99

Notary Public, State of Montana
Residing at Great Falls

Dated this 26 day of Sept., 1995.

Bruce Nelson

STATE OF MONTANA
County of Lewis & Clark } ss

On this 26 day of Sept., 1995, before me, a Notary Public for the State of Montana, personally appeared Bruce Nelson, known to me to be the person who executed the foregoing Certificate of Ownership, and he acknowledged to me that he executed the same.

My comm. expires 1-3-99

Notary Public, State of Montana
Residing at Great Falls

SURVEYOR CERTIFICATE

I, Thomas L. Russell, a Registered Land Surveyor in the State of Montana do hereby certify that during Nov. 1994, have made a careful and accurate survey of land located in the SE1/4 of Section 35 T18N-R7W, Lewis and Clark County, and that the distances and courses shown are true and accurate to the best of my knowledge and belief, that the survey was made at the request of Steve Kellogg for the purpose of relocating common boundaries and is in conformity with the provisions of the Montana Subdivision and Platting Act, 1993 (Sections 76-3-101 M.C.A. through 76-3-614 M.C.A.) and the regulations adopted pursuant thereto.

Thomas L. Russell
Registered Land Surveyor
Montana Registration #6236

CERTIFICATE OF FILING BY CLERK & RECORDER

State of Montana
County of Lewis & Clark } ss

Filed for record this ___ day of _____, 1995, at ___ o'clock ___ M.

Clerk & Recorder, Lewis & Clark County, Montana

CERTIFICATE OF COUNTY TREASURER

I, Paulette DeHart, County Treasurer of Lewis & Clark County, Montana, do hereby certify that I have examined the record covering the areas included in the accompanying plat and find that all taxes on same have been paid to date.

Paulette DeHart by
County Treasurer, Lewis & Clark County, Montana

2768-35-1-01-50-AG00

William T. Bernasek
Reviewing Land Surveyor
M.L.S. Reg. No. 3323-S
Reviewed Under Section 76-3-611, MCA
Date February 20, 1996

MONTANA
WILLIAM T. BERNASEK
3323 S

Sec. 35
T 18 N
R 7 W

TRIANGLE ENGINEERING

FIELD WORK DONE: NOV., 1994
BY: TOM R., BEN K.
DRAWN: MARCH, 1995
BY: BEN K.
SHEET 1 OF 1

PROJECT: KELLOGG NELSON

TOWNSHIP 19 NORTH RANGE 20 EAST OF THE PRINCIPAL MERIDIAN, MONTANA

Name and number of County in which Township is located. If the Township is in more then one County, See Sections 1, 12, 13 & 24 below.

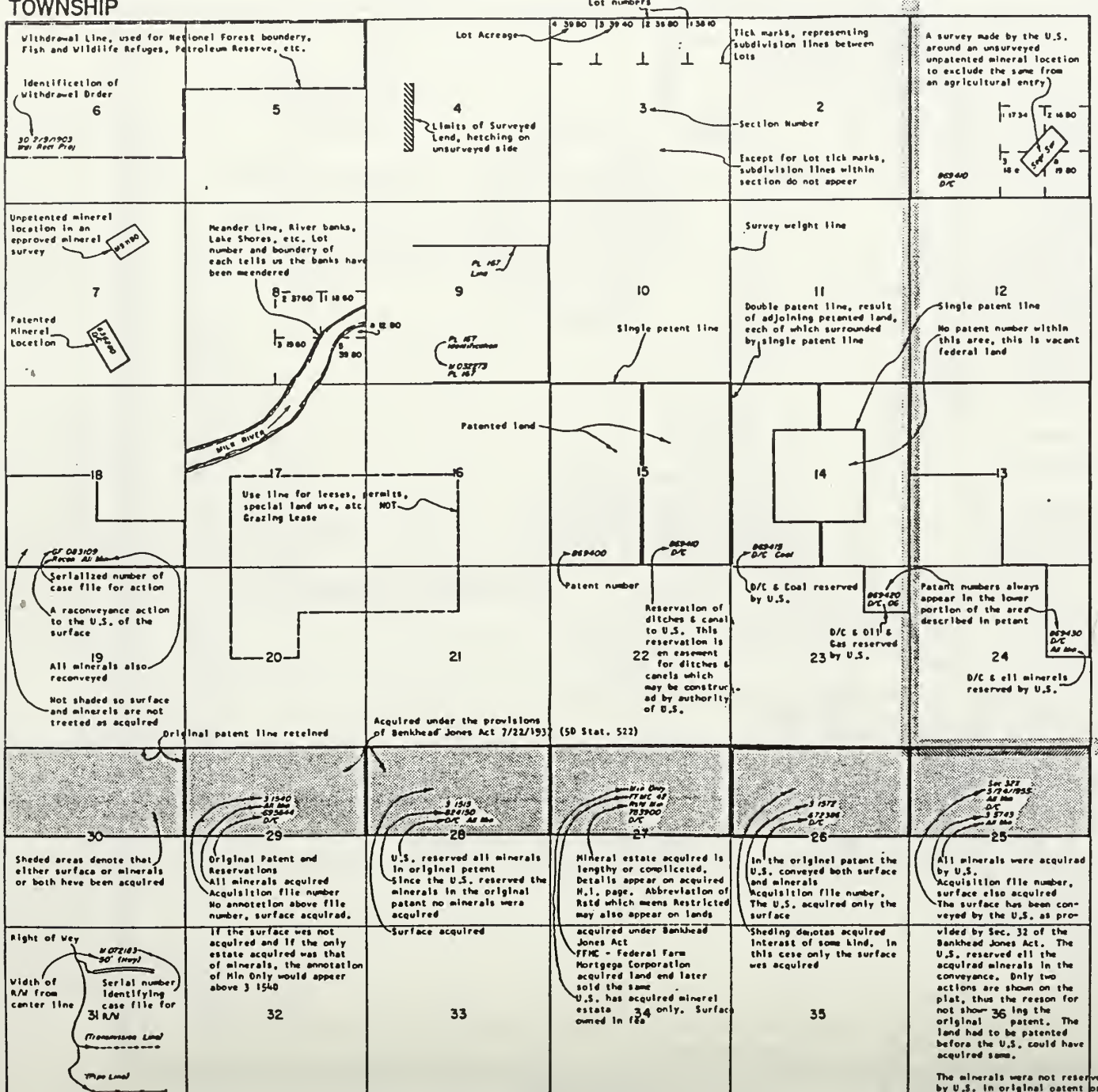
FERGUS COUNTY 027

STATUS OF PUBLIC DOMAIN LAND AND MINERAL TITLES

Spece for title of plat, whether Master Title or Use

MT PLAT

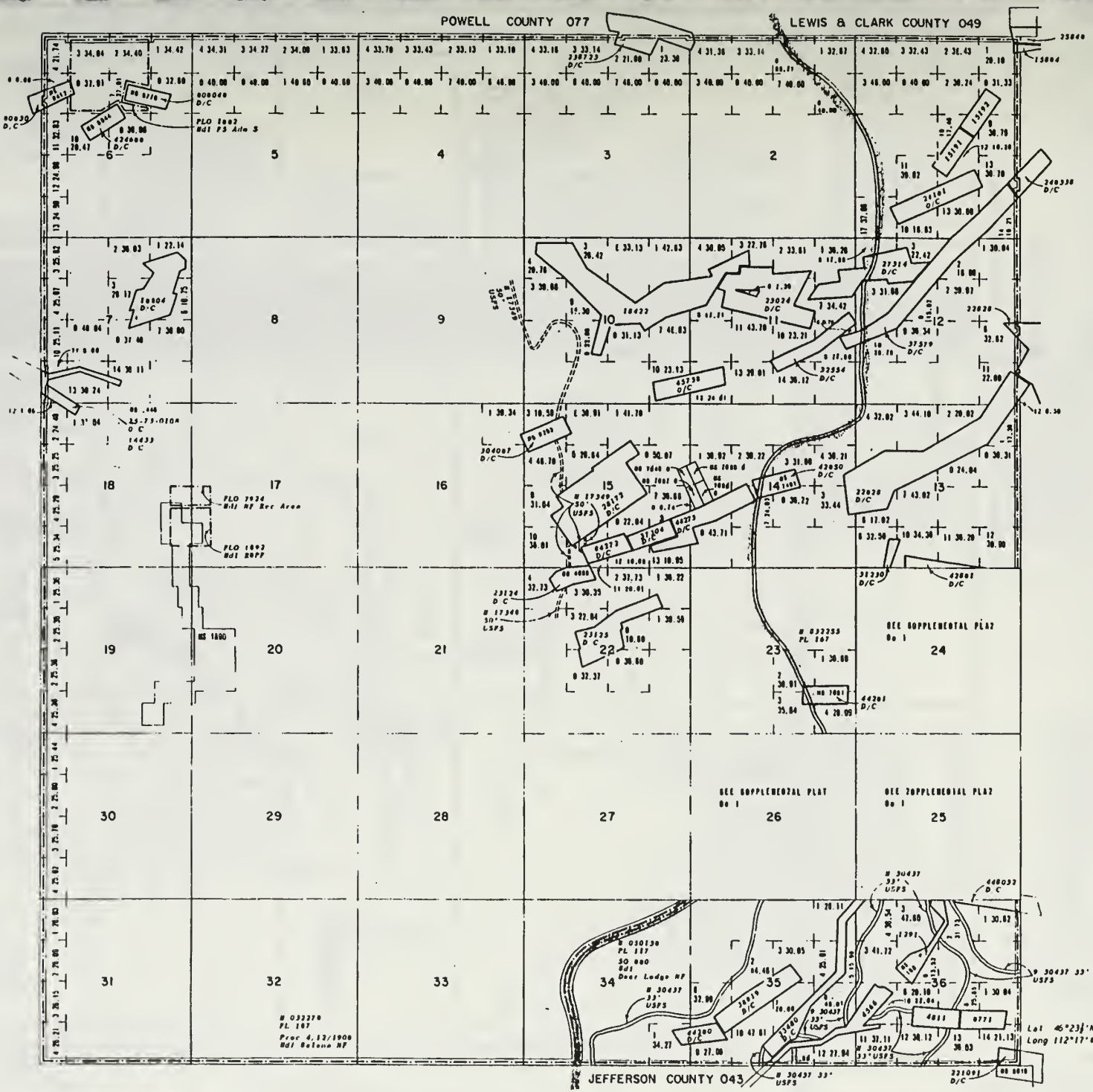
EXPLANATORY TOWNSHIP


Lot numbers
4 39.80 3 39.40 2 38.80 1 38.10
Lot Acreage
Tick marks, representing subdivision lines between Lots
Withdrawal Line, used for National Forest boundery, Fish and Wildlife Refuges, Petroleum Reserve, etc.
Identification of Withdrawal Order
30 7/9/1903 Bdy. Rect Pl-A)
Limits of Surveyed Land, hatching on unsurveyed side
Section Number
Except for Lot tick marks, subdivision lines within section do not appear
A survey made by the U.S. around an unsurveyed unpatented mineral location to exclude the same from an agricultural entry
Unpatented mineral location in an approved mineral survey
MS 1180
Meander Line, River banks, Lake Shores, etc. Lot number and boundery of each tells us the banks have been meandered
Survey weight line
Patented Mineral Location
Single patent line
Double patent line, result of adjoining patented land, each of which surrounded by single patent line
No patent number within this area, this is vacant federal land
MILK RIVER
Patented land
Use line for leases, permits, special land use, etc. NOT Grazing Lease
Serialized number of case file for action
A raconveyance action to the U.S. of the surface
All minerals also reconveyed
Not shaded so surface and minerals are not treated as acquired
Patent number
Reservation of ditches & canals to U.S. This reservation is an easement for ditches & canals which may be construc ed by authority of U.S.
D/C & Coal reserved by U.S.
D/C & Oil & Gas reserved by U.S.
Patent numbers always appear in the lower portion of the area described in petent
D/C & all minerals reserved by U.S.
Original patent line retained
Acquired under the provisions of Benkhead Jones Act 7/22/1937 (50 Stat. 522)
Sheded areas denote that either surface or minerals or both heve been acquired
Original Patent and Reservations All minerals acquired Acquisition file number No annotation above file number, surface acquired.
U.S. reserved all minerals in original petent Since the U.S. reserved the minerals in the original patent no minerals were acquired
Surface acquired
Mineral estate acquired is lengthy or complicated. Details appear on acquired H.I. page. Abbreviation of Rstd which means Restricted may also appear on lands acquired under Benkhead Jones Act
FFMC - Federal Farm Mortgage Corporation acquired land and later sold the same U.S. has acquired mineral estate only. Surface owned in fee
In the original patent the U.S. conveyed both surface and minerals Acquisition file number, The U.S. acquired only the surface
Sheding deeds acquired interest of some kind, in this case only the surface was acquired
All minerals were acquired by U.S. Acquisition file number, surface also acquired The surface has been conveyed by the U.S. as provided by Sec. 32 of the Bankhead Jones Act. The U.S. reserved all the acquired minerals in the conveyance. Only two actions are shown on the plat, thus the reason for not showing the original patent. The land had to be patented before the U.S. could have acquired same.
The minerals were not reserved by U.S. in original patent or
Right of Way
Width of R/W from center line
Serial number identifying case file for R/W
If the surface was not acquired and if the only estate acquired was that of minerals, the annotation of Min Only would appear above 3 1540
Division of County lines delineated in accordence with Montana Statutes
FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS REFER TO INDEX OF MISCELLANEOUS DOCUMENTS.
PETROLEUM COUNTY 069
FERGUS COUNTY 027

INDEX TO SEGREGATED TRACTS				
RESURVEY	ORIGINAL SURVEY			
TRACT NO	T	R	SEC	SUBDIVISION
				Space for cross reference to segregated tracts

This space frequently used and each entry is self-explanetory

CURRENT TO	CURRENT TO



STATUS OF PUBLIC DOMAIN
LAND AND MINERAL TITLES

MT PLAT

INDEX TO SEGREGATED TRACTS				
RESURVEY	ORIGINAL SURVEY			
TRACT NO	T	R	SEC	SUBDIVISION

M 032278 Ost PL 181 completed 2/12/1862. All MF surface Mgmt by USFS except
Bonanza Lode 1, 2, Hard Luck No 1 Lode, Monarch Lode, Monarch No 1 Lode, Anderson Lode, Gettle M, Gene A, Fast Gene, Total Wreck, West Ontario, Moonlight, Victory, Invasion, D-Day, Freedom, Bi-Way, Bi-Ord, Big Boy, Big Boy Extension, Ontario Placer

M 032233 Ost PL 187 completed 8/19/1886. All SF surface Mgmt by USFS

M 050138 Ost PL 181 completed 11/8/1883. All SF surface Mgmt by USFS

M 74130 Min Contest
Secs 19 & 20

FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS REFER TO INDEX OF MISCELLANEOUS DOCUMENTS

CURRENT TO	CURRENT TO
	/

USE PLATS

Lat 46°23' N
Long 112°17' W

THIS PLAT IS THE BUREAU'S RECORD OF TITLE AND SHOULD BE USED ONLY AS A GRAPHIC DISPLAY OF TOWNSHIP SURVEY DATA. RECORDS HEALDS DO NOT REFLECT TITLE CHANGES WHICH MAY HAVE BEEN EFFECTED BY LATERAL MOVEMENTS OF RIVERS OR OTHER BODIES OF WATER. REFER TO THE CADASTRAL SURVEY FOR OFFICIAL SURVEY INFORMATION.

T. 8 N
R. 6 W

CERTIFIED CORNER RECORDATION

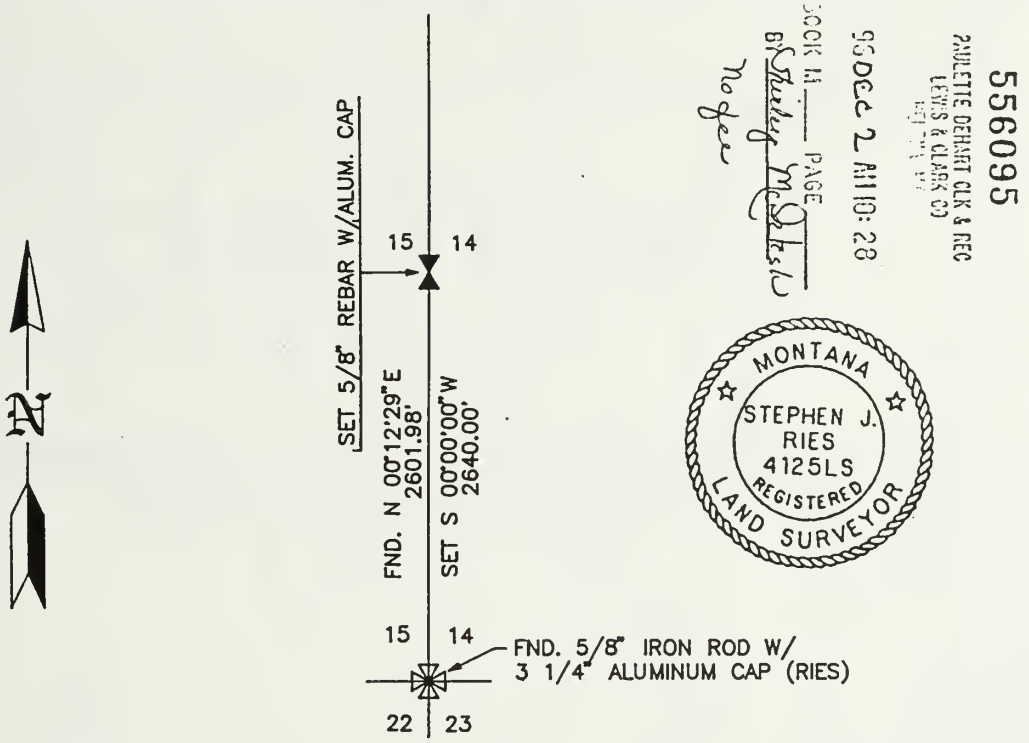
Corner W 1/4 COR., SECTION 15 T. 11N R. 2W P.M.M. LEWIS AND CLARK County

RECORD: G.L.O. SURVEY – SET A SLATE STONE 16X10X4 FOR 1/4 SEC. COR., RAISED A MONUMENT OF STONE AROUND THE CORNER AS PER INSTRUCTIONS.

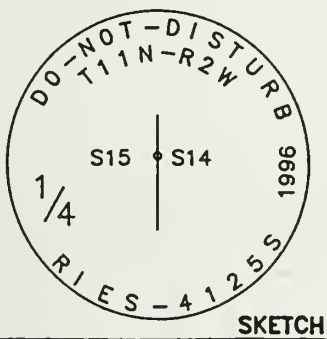
FOUND: 1/2" REBAR W/Y.P.C. (ERICKSON–2354S) AND MONUMENT OF STONE AROUND 1/2" REBAR, ACCEPTED AS BEST POSITION OF CORNER.

SET: 2' X 5/8" REBAR W/ 2" ALUMINUM CAP, IN PLACE OF ERICKSON'S IRON PIN AND BLAZED A 6 INCH LONE PINE, WHICH BEARS S 00°30'E, 44.90 FEET MARKED 1/4 BT.

556095
ANNETTE DEHART CLK & REC
LEWIS & CLARK CO
BOOK 14 PAGE
By Shirley McGhee
No fee
95 DEC 2 AM 10: 28



FOR MORE INFORMATION SEE CERTIFICATE OF SURVEY NO. _____ .



2" ALUMINUM CAP

SKETCH OF CORNER

CERTIFICATION

I, CHRISTOPHER J. RIES certify the information shown hereon is true and correct.

Signature Ground Party Chief

I, STEPHEN J. RIES certify that this Corner Record correctly represents work performed by me or under my direction in compliance with the "Corner Recordation Act" (70-22-101, et seq. MCA)

Signature of Surveyor & Seal

Date 10/21/96 Reg. No. 4125LS

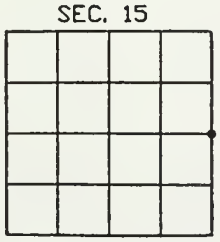
Employer STEPHEN J. RIES

Office of Clerk and Recorder, County of Lewis and Clark. This 'corner record' was filed for record on _____ was noted on the cross-index plat and is assigned page No. _____ , in book No. _____

_____
County Official

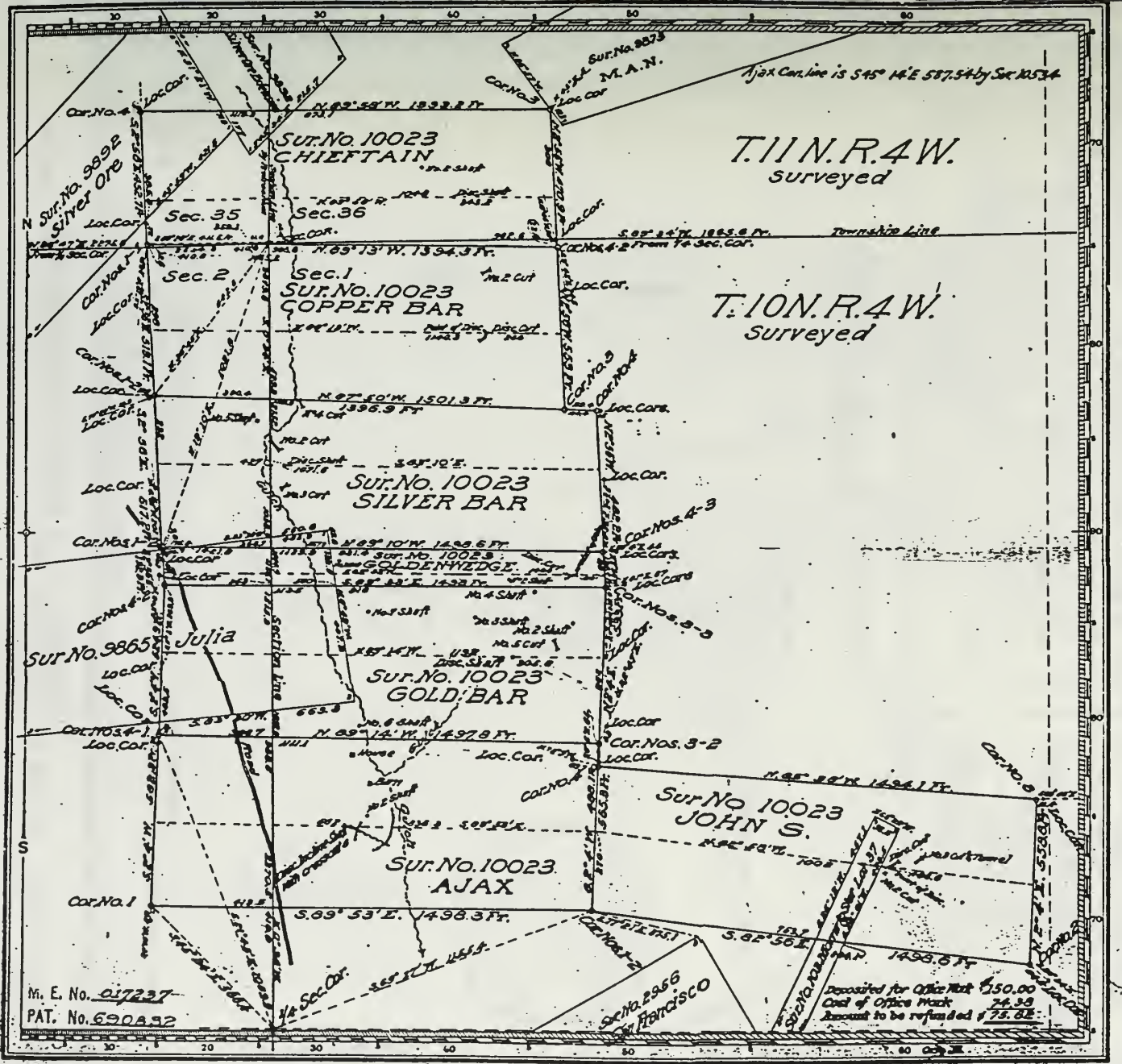
Cross Index No. L–17 T. 11N R. 2W PMM

SEC. 15



• corner this sheet

Adopted July 1, 1981, Montana Board of Professional Engineers & Land Surveyors



Claim Located June 1st 1915 Silver Bar Amd. Nov. 2nd 1915
Golden Wedge Located Nov. 1st 1915 Copper Bar " " "
Chieftain Located Nov. 1st " " "

Mineral Survey No. 10023

Lot No. _____

Helena Land District.

PLAT

OF THE CLAIM OF

Scratch Gravel Mining Corporation

KNOWN AS THE

JOHN S. AJAX, GOLD BAR, GOLDEN WEDGE, SILVER BAR, COPPER BAR AND CHIEFTAIN LODES

IN Scratch Gravel Mining DISTRICT, Lewis & Clark COUNTY, Montana

Containing an area of _____ Acres.

Scale of 300. Feet to the inch.

Variation 18° to 22° 32' E.

SURVEY January 2nd to 6th 1917. BY Arthur W. Verhoren, U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of Scratch Gravel Mining Corporation known as the John S. Ajax, Gold Bar, Golden Wedge, Silver Bar, Copper Bar and Chieftain Lodes from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant or its grantors and that said improvements consist of Three disc cuts, four disc shafts, seven cuts, tunnel, four crosscuts and ten shafts, valued at $6640.00

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

Henry Gerhardt

U.S. Surveyor General's Office, Helena Montana, March 20th 1917.

U.S. Surveyor General for MONTANA

Deposited for Office Work $50.00
Cost of Office Work 24.39
Amount to be refunded $25.61

-35-

10023 Con. Sheets

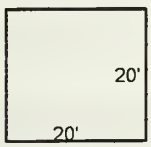
10023

CHAPTER 3

COMPUTATIONS AND FORMULAS

PARCEL SQUARE FOOTAGE FORMULAS

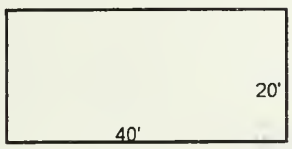
Square



AREA = BASE x HEIGHT

Example:
Area = 20' x 20' = 400 sq.ft

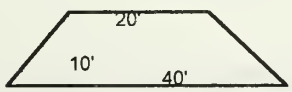
Rectangle



AREA = BASE x HEIGHT

Example:
Area = 40' x 20' = 800 sq.ft.

Trapezoid

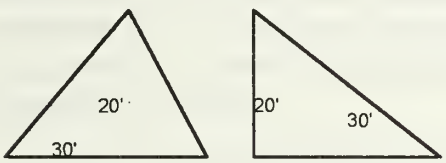


$$\text{AREA} = \frac{\text{HEIGHT x (SUM OF 2 BASES)}}{2}$$

Example:

$$\text{Area} = \frac{10' \times (20' + 40')}{2} = 300 \text{ sq.ft.}$$

Triangle

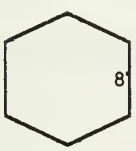


$$\text{AREA} = \frac{\text{HEIGHT x BASE}}{2}$$

Example:

$$\text{Area} = \frac{20' \times 30'}{2} = 300 \text{ sq.ft.}$$

Regular Polygon



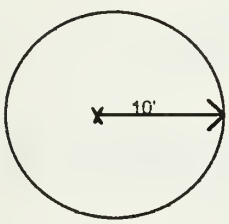
AREA = CONSTANT x SIDE SQUARED

Area:

5 sides =	1.7205 x Side Squared
6 sides =	2.5981 x Side Squared
7 sides =	3.6339 x Side Squared
8 sides =	4.8284 x Side Squared
9 sides =	6.1818 x Side Squared
10 sides =	7.6942 x Side Squared
11 sides =	9.3656 x Side Squared
12 sides =	11.1962 x Side Squared

Example. 2.5981x (8x8) = 166 sq.ft.

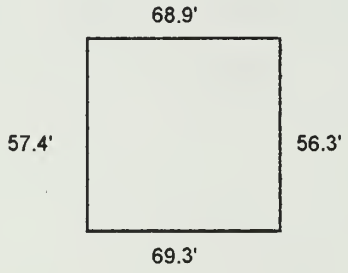
Circle



AREA = Pi x (RADIUS SQUARED)

Example:
Area = 3.1416 x (10 x 10) = 314 sq.ft.

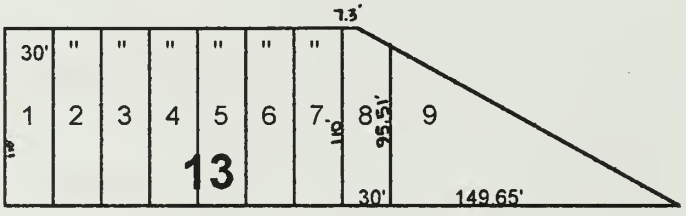
If lot dimensions are given, but the bearings are not and the lot seems to be almost square or rectangular, add the average of the opposite sides and multiply them together.



$$\left(\frac{57.4 + 56.3}{2}\right) X \left(\frac{68.9 + 69.3}{2}\right) = 3928\pm$$

Note: Always list approximate areas with a $\pm$.

Problem: Calculate the areas for Lots 1 through 9, Block 13.



SOLUTION:

Lot 8 = $\left(\frac{110 + 95.51}{2}\right)$ x 22.7 + (7.3 x 110) = 3135.5

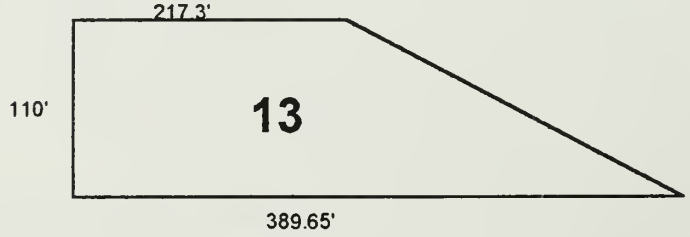
Lot 9 = 149.65 x 0.5 x 95.51 = 7146.5

Lots 1-7 = 110 x 30 x 7 = 23,100

TOTAL = 33,382 sq.ft.

CHECK BY:

$\left(\frac{217.3 + 389.65}{2}\right)$ x 110 = 33,382 sq.ft.



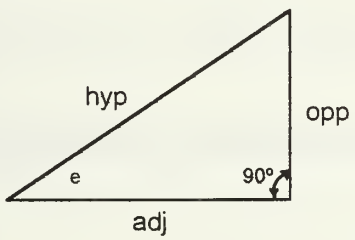
Formulas and computations used by the cartographer.

1. Circumference of a circle = Diameter x π

2. Area of a circle = π x r^2 or Dia.^{2} x 0.7854

3. Trigonometric functions =

$$\text{SIN } e = \frac{opp}{hyp} \qquad \text{COS } e = \frac{adj}{hyp} \qquad \text{TAN } e = \frac{opp}{adj}$$

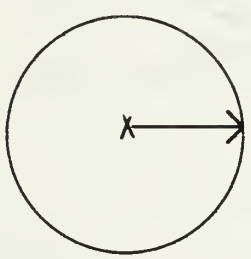


Trigonometric functions are used to solve area problems that cannot be solved using other methods. Often times, bearings and distances are used in a description and the area is not given. If the problem has too many courses, it can either be broken down into triangles and scaled or a planimeter can be used. Show all areas derived from scaling and planimeter as a "±" or "plan." Recheck all calculations if possible by another formula or method. There are also many computer software programs available which will perform these functions.

On a right triangle the length of the "hyp" can be figured by:

$$hyp = \sqrt{opp^2 + adj^2}$$

Circumference of a Circle:



π = 3.1416

32 x = 100.53

Problem: Say a 28° pie shaped piece is taken out. What is the arc length of this piece?

Solution: Use the ratio and proportion formula as follows:

X = ARC LENGTH

$$\frac{X}{28} = \frac{100.53}{360}$$

$$X = \frac{100.53 \times 28}{360}$$

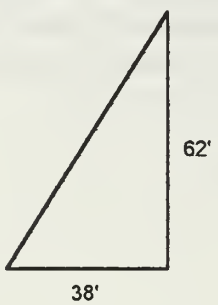
$$X = 7.819'$$

Theory: The arc length (x) is equal to 100.53' in the same proportion as 28° is equal to 360°.

Ratio and proportion can be used to solve many different problems.

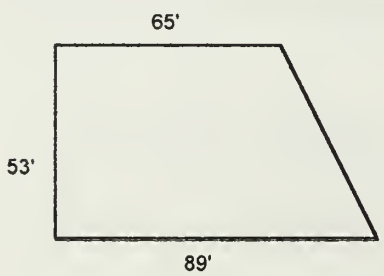
Simple right triangle areas.

Problem: Find the areas of the following.



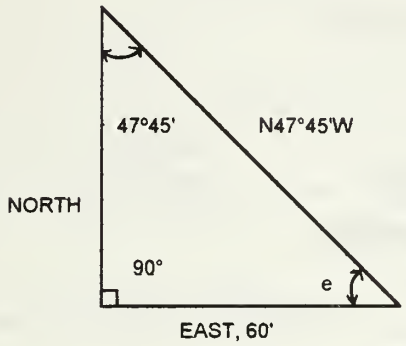
38' x 0.5 x 62' = 1178

(½ the base x height = area)



$$\left(\frac{65' + 89'}{2}\right) \times 53' = 4081$$

Problem: Solve all unknowns of the following triangle:



e = 42°15' or 42.25°

$$\text{TAN } e = \frac{\text{OPP}}{\text{ADJ}}$$

$$\text{TAN } 42.25° = \frac{\text{OPP}}{60}$$

OPP = 54.5

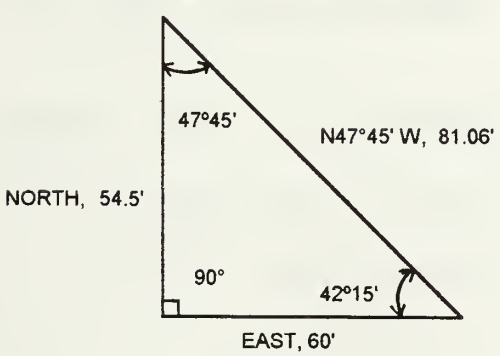
$$\frac{1}{\text{SIN } e} = \frac{\text{HYP}}{\text{OPP}}$$

$$\frac{54.5}{\text{SIN } 42.25} = \text{HYP}$$

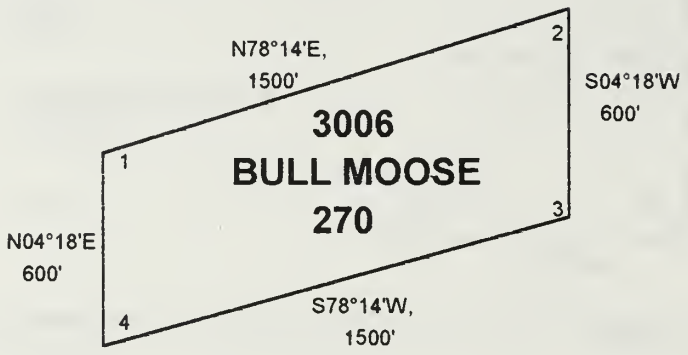
HYP = 81.06

CHECK BY: $60^2 + 54.5^2 = \sqrt{6570.25}$ or 81.06

AREA = 60 x 0.5 x 54.5 = 1635 sq.ft.



Problem: Find the area of the following mining claim.



Solution: First check the bearings to see if the opposite sides are parallel and/or at 90° to each other. If they are parallel but not at 90° then follow the steps below.

1. First, the angle "A" must be found by:

$$\begin{array}{r} 78°14' \\ \underline{- \ 04°18'} \end{array}$$

Angle "A" = 73°56' or 73.933°

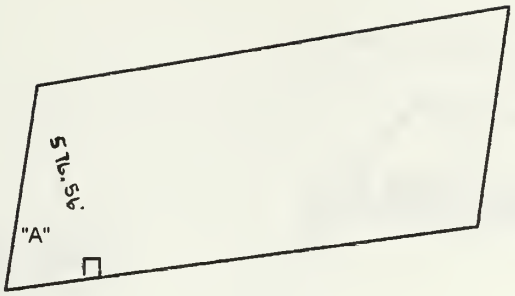
2. Then apply trig.

$$\text{Sin } 73.933° = \frac{\text{opp}}{600}$$

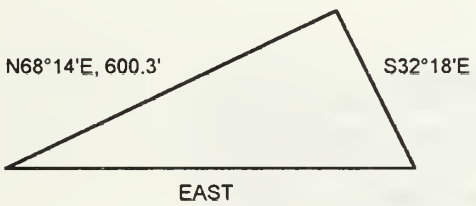
OPP = 576.56'

Area = 576.56 x 1500' = 864,840 square feet

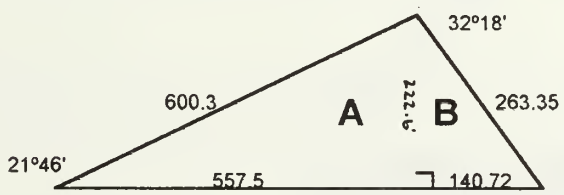
864,840 ÷ 43,560 = 19.85 acres



Problem: Solve the obtuse triangle:



Solution: Break the triangle down into two right triangles.



TRIANGLE A. $\text{SIN } e = \frac{\text{OPP}}{\text{HYP}}$ $\text{SIN } 21.766° = \frac{\text{OPP}}{600}$ OPP = 222.6

$\text{COS } e = \frac{\text{ADJ}}{\text{HYP}}$ $\text{COS } 21.766° = \frac{\text{ADJ}}{600.3}$ ADJ = 557.5

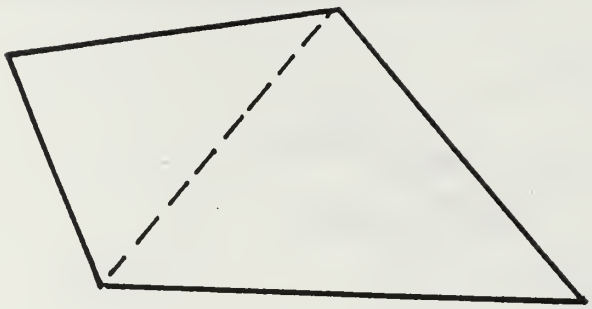
TRIANGLE B. $\text{TAN } e = \frac{\text{OPP}}{\text{ADJ}}$ $\text{TAN } 32.3° = \frac{\text{OPP}}{222.6}$ OPP = 140.72

$\text{SIN } e = \frac{\text{OPP}}{\text{HYP}}$ $\frac{1}{\text{SIN } 32.3°} = \frac{\text{HYP}}{140.72}$ HYP = 263.35

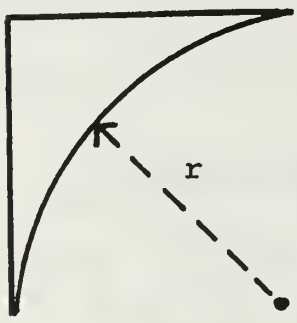
CHECK BY: $222.6 + 140.72 = \sqrt{69332.8}$ or 263.35

THE TOTAL AREA = 77711.89 sq.ft.

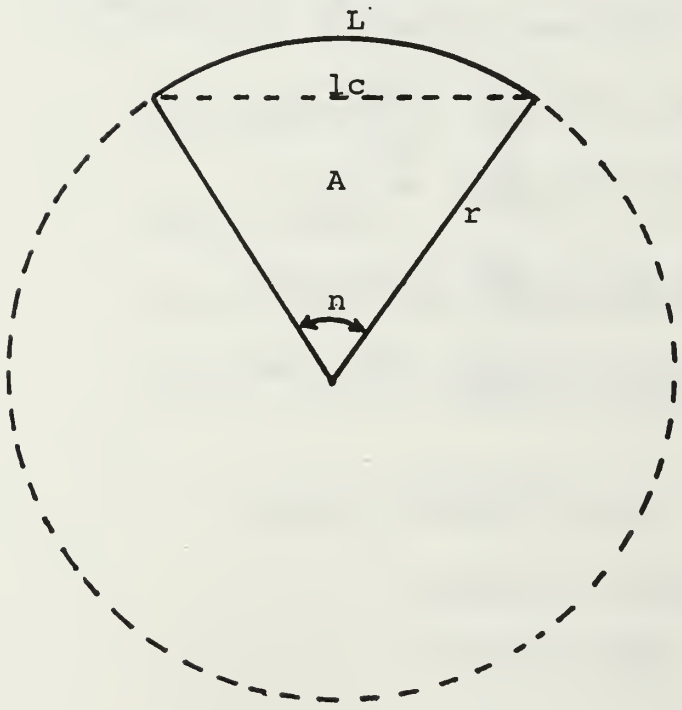
77711.89 ÷ 43560 = 1.784 AC.



Area of trapezium = Divide into two triangles and find the area of each separately



Area = $.2146 \times r^2$



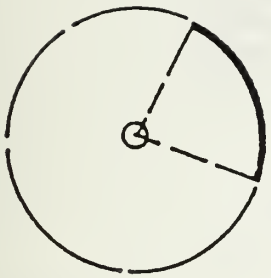
A = Arc
L = Length of arc
r = radius
n = number of degrees

$$A = \frac{\pi n r^2}{360^\circ} \text{ or } \frac{r^2 \sin n}{2}$$

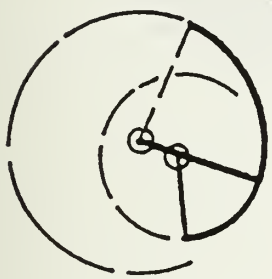
$$L = \frac{\pi n r}{180^\circ}$$

$$lc = \sin(\tfrac{1}{2}n) r^2$$

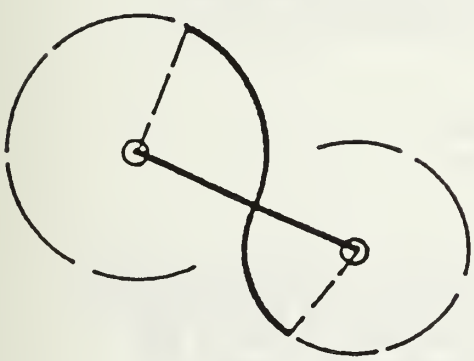
Types of curves and relationships:



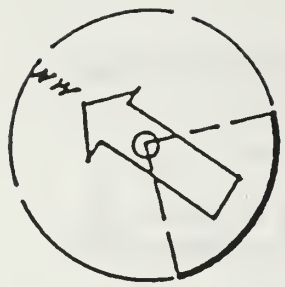
a. A simple curve is the arc of of a single circle of a given radius.



b. Curves are compound at a point if the curves have a common radial line at the point of contact, different lengths of radius and the centers of the circles are on the same side of the curve.

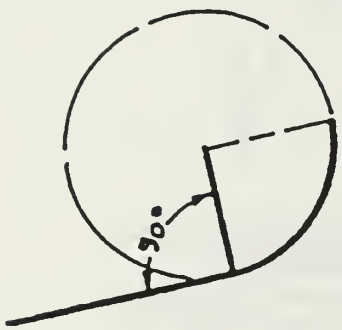


c. Curves are reversed if the radial lines at the point of contact form a common line and the centers of the circles are on opposite sides of the curve.

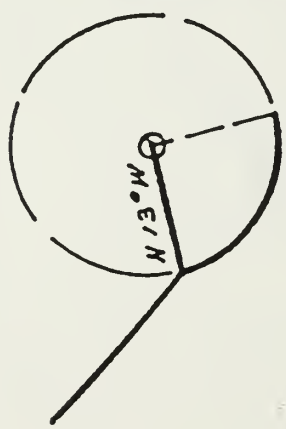


Concavity is the inside or indented side of the curve. Direction of concavity specifies the direction you would be facing if you stood at the midpoint of the curve and looked toward the center of the circle.

Direction along a curve is the general direction of movement along a curve (such as easterly, northeasterly, northerly).

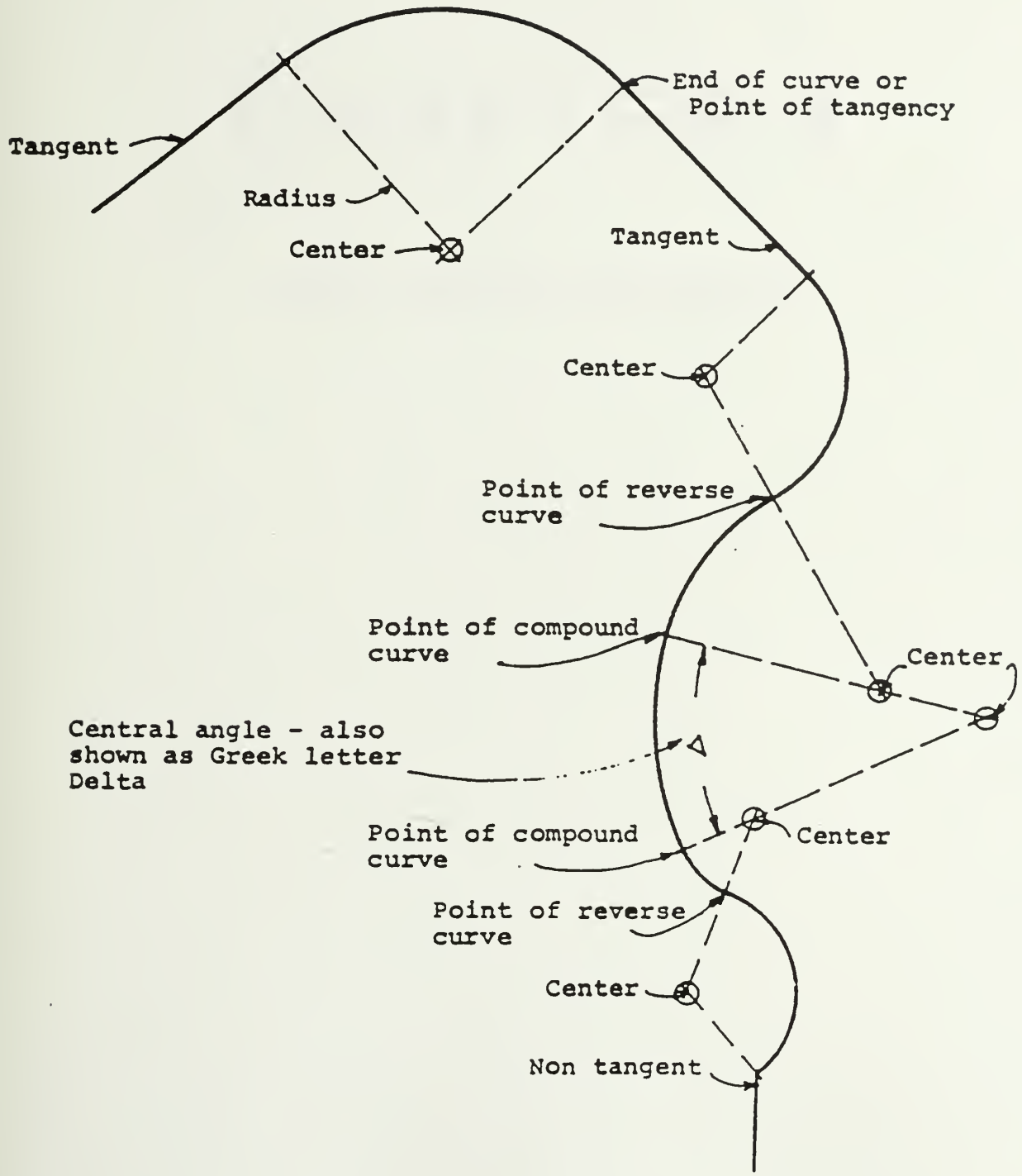


Tangency. A curve is tangent to a course if, at the point of contact, the radius forms an angle of 90° with the course.



Radial bearing. If a curve, beginning at the end of a previous course, is not tangent to the course, the bearing of that initial radius should be given to positively locate the center of the circle - otherwise, it could be anywhere.

Illustration showing curves and straight lines in combination.



CHAPTER 4

MAP MAINTENANCE

MAPPING MEDIA

Mylar

Using Mylar instead of vellum or other papers greatly increases the life of the map. Mylar does not stretch or become deformed and, if stored properly, will last almost indefinitely. Mylar is easy to work with and erases quickly with little or no damage or wear to the original. All drafting on Mylar should be done in ink. Although ink is permanent it erases easily from the Mylar and allows the cartographer to make changes from year to year. For the time and money spent to produce maps, Mylar is a wise investment.

Vellum

Vellum is a finely processed paper (100% rag). Vellum is good to use for the construction of complicated areas in order to deal with problem areas before the inking is done on Mylar. Vellum will yellow with age (10-15 years) and it is very difficult to erase on and make corrections.

Blueline Paper

Blueline paper is the real working copy for the staff. These maps should be bordered on the back edges with a clear book binding tape to prevent tearing. Masking tape ages quickly and often buckles and separates from the print and its use should be avoided. Blueline paper fades when exposed to any light (especially sunlight) and should be kept in a map cabinet shielded from light when not in use. Blueline prints wear with use and become brittle with age. The geocoded bluelines should be "bound" in a book type format, probably in groups of sections and townships with an index map for a front cover.

Reproducible Mylar

Reproducible Mylar has the same chemical treatment on the surface as does blueline paper. This enables you to obtain a "Mylar copy" of your original Mylar map without re-drafting the map. These Mylar reproductions make good to excellent blueline copies. Having a Mylar reproduction helps to preserve the original and creates a "geocode Mylar". The original map will not be subject to wear and a new "geocode Mylar" can be made by simply running a new copy from the original, if needed. Shelf life of chemically treated Mylar is limited. Check the label or a distributor for appropriate storage and life span.

The Mylar base map will contain subdivisions, Certificates of Survey, and right of ways. The reproducible Mylar will have all geocodes as outlined in the MONTANA APPRAISAL MANUAL. This system will allow a person to make blueline copies from the reproduced Mylar as the older bluelines age and wear out.

The Mylar overlay can be reproduced in such a way that the information from the Mylar base map (now the reproduced information) would appear on the back side of the reproduced Mylar, enabling the cartographer to geocode on the front side. If any changes in geocode boundaries occur, the original information is not tampered with and remains on the back side. Any corrections to the original would be easy to correct by simply erasing the portion on the back side and making the corrections on the front side.

MAP UPDATES

After the map is drawn using the most current surveys and deeds, it must be maintained. Any new information changing the existing boundaries of the map must be updated. The cartographer must not neglect maintenance of the system or the standards of that system. "The deterioration of a county map system is usually a slow process. In all cases it begins by disregarding what appears to be small insignificant elements of the map standards." (Page 352, Oregon Manual, 1985)

The maps are the most essential element of the mapping system and should:

1. Conform to map standards.

2. Be uniform, accurate, neat and current.

3. Be reliable for determining the true area of each parcel of real property.

4. Retain their usefulness for the discovery, location and identification of real property.

5. Display as accurately as possible, the true spacial relationship of each parcel of real property.

CHAPTER 5

LEGEND AND SYMBOLS

MAP LEGEND OR KEY

A legend is an indispensable element for a map. It serves the purpose of providing the viewer with an explanation of the various symbols, colors, patterns or value intensities used. For a single unique map, such as a neighborhood map, the legend may be located conveniently within the map border. For a cadastral mapping system that involves a variety of symbols and features, a separate legend page should be used.

Occasionally a map may have unique characteristics that require other symbols that are not included on the legend page. With the occurrences of these situations a notation and explanation of the symbol should be shown outside of the map area.

MAP STANDARDS SYMBOLS

The following pages are standardized lines and symbols to be used for counties beginning a Mylar mapping system. This system is intended to use a 30" x 42" base map Mylar and a 30" x 42" reproduced (geocode) Mylar from the base map original.

The standards supply recommended symbol sizes and lettering template sizes for various map scales. Any line spacing measurements are indicated at a 1"=200' scale. The intent of the maps being produced is not for enlargement or reduction through photographic methods.

Some abbreviations that were used with the supplement are defined as follows:

TEMP.	Template (referring to a lettering template)
SYM.	Symbol
NO.	Number
SCR.	Script (For some symbols scale may inhibit its usage so script label with LEROY should be used.)
LAB.	Label (Used with SCR. - see above.)
140 CL	References Leroy Lettering Template Size
N/A	Not applicable to the feature described
P.O.B.	Point of Beginning
I.P.	Initial Point

For the purposes of these standards the scales indicated on the charts beginning on page 5 will fit well on the 30" x 42" Mylar. Larger map scales require more generalization so smaller pen and symbol sizes are required.

The following feature categories indicate symbol grouping.

LINE AND BOUNDARIES
ROAD
CORNER
WATER
PARCEL IDENTIFIER
OTHER

The standards are designed to avoid tape or press on symbols that have a tendency to detach over time. Good judgment needs to supersede symbol or pen size indicated if space or circumstances impose problems. Many of the symbols shown are to be displayed only on the reproduced (geocoded) Mylar and are indicated as such.

RECOMMENDED SYMBOL TEMPLATES

Pickett general purpose inking template number 1085I.

Pickett general purpose inking template number 1053I

Pickett highway symbols number 1168I

Pickett full size circle indicator inking template number 1005PI

Pickett small ellipse number 1263I

Ames lettering guide

EXAMPLES OF LETTERING WITH TEMPLATE SIZE

Koh-I-Noor Rapidograph Scriber Guides

Guide Number	Letter Height	Rapidograph Point Size
3005-CL-60	.060 inches	4×0/.18
3005-CL-80	.080 inches	3×0/.25
3005-CL-100	.100 inches	00/.30
3005-CL-120	.120 inches	0/.35
3005-CL-140	.140 inches	1/.50
3005-CL-175	.175 inches	2/.60
3005-CL-200	.200 inches	3/.80
3005-CL-240	.240 inches	3/.80
3005-CL-290	.290 inches	4/1.20
3005-CL-350	.350 inches	4/1.20
3005-CL-425	.425 inches	4/1.20
3005-CL-500	.500 inches	6/1.40

Rapidograph Controlled Lettering AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz0123456789
3005-CL-60

Rapidograph Controlled Lettering AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVv
3005-CL-80

Rapidograph Controlled Lettering AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPp
3005-CL-100

Rapidograph Controlled Lettering AaBbCcDdEeFfGgHhIiJjKk
3005-CL-120

Rapidograph Controlled Lettering AaBbCcDdEeFfGg
3005-CL-140

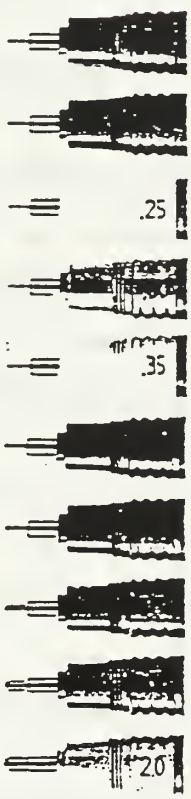
Rapidograph Controlled Lettering AaBbCc
3005-CL-175

Rapidograph Controlled Lettering Aa
3005-CL-200

EXAMPLES OF LINE SIZE TO PEN SIZE

6x0	4x0	3x0	00	0	1	2	2½	3	3½	4	6	7
.13	.18	.25	.30	.35	.50	.60	.70	.80	1.00	1.20	1.40	2.00
.005 in.	.007 in.	.010 in.	.012 in.	.014 in.	.020 in.	.024 in.	.028 in.	.031 in.	.039 in.	.047 in.	.055 in.	.079 in.
.13 mm	.18 mm	.25 mm	.30 mm	.35 mm	.50 mm	.60 mm	.70 mm	.80 mm	1.00 mm	1.20 mm	1.40 mm	2.00 mm

Line thickness	Color code	rotring rapidograph® Drawing pen with point Order No.	rotring rapidograph® Replacement drawing point Order No.	rotring rapidograph® F Drawing pen with point Order No.	rotring rapidograph® F Replacement drawing point Order No.
0.13/6x0	violet	155 013	755 013	156 013	756 013
0.18/4x0	red	155 018	755 018	156 018	756 018
0.25/3x0	white	155 025	755 025	156 025	756 025
0.30/00	olive	155 030	755 030	156 030	756 030
0.35/0	yellow	155 035	755 035	156 035	756 035
0.5/1	brown	155 050	755 050	156 050	756 050
0.7/2½	blue	155 070	755 070	156 070	756 070
1.0/3½	orange	155 100	755 100	156 100	756 100
1.4/6	green	155 140	755 140	156 140	756 140
2.0/7	light gray	155 200	755 200	156 200	756 200

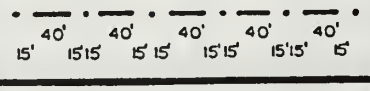
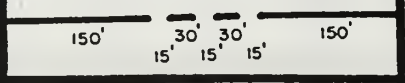
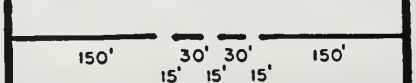
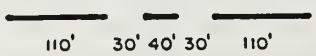
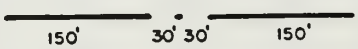
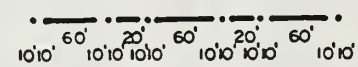
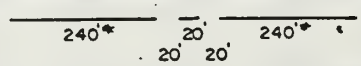
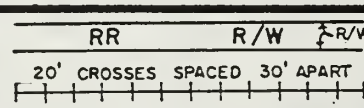
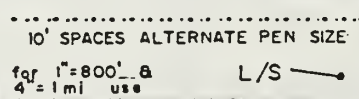
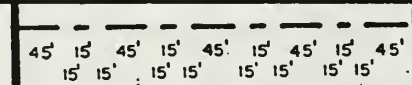


FEATURE LINE AND BOUNDARY	SYMBOL MEASUREMENT AT 1:200	REMARKS
SECTION LINE	———	
UNCERTAIN SECTION LINE	——— ——— 150' 50' 150'	
PLATTED SUBDIVISION BOUNDARY	— — — — 50' 50' 50' 50' 50' 50' 50'	SPACING MAY NEED SOME VARYING TO AVOID COVERING IMPORTANT INFORMATION. DISCRETION PLACEMENT OF SUBDIVISION NAME.
NON OFFICIAL PLAT (CONVENIENCE PLAT) SUBDIVISION BOUNDARY	— • — • — • — 50' 25' 25' 50' 25' 25' 50' 25' 25' 50'	SAME AS ABOVE. NOTATION WITH SUBDIVISION NAME TO INDICATE IT IS NOT ON RECORD WITH THE CLERCK AND RECORDER OFFICE.
BLOCK BOUNDARY	———	
LOT BOUNDARY	———	
BREAK IN LOT OR LEGAL DESCRIPTION	— — — — — — — — — — DISCRETION SPACING	SHORT CONSISTENT DISCRETION SPACING.
SPECIAL OWNERSHIP BOUNDARY	———	USED TO GROUP MULTIPLE DESCRIPTIONS, LIMIT USEAGE DISCRETION. USE ON GEOCODE MAP ONLY.
GEOCODE SECTION LINE	— — — — — 40' 30' 40' 30' 40' 30' 40' 30' 40'	LINE MAY BE BENT IN RESPECT TO EXISTING SECTION LINE. FOR MULTIPLE SECTIONS LABEL EACH SIDE OF LINE. USE ON GEOCODE MAP ONLY.
SCHOOL LEVY DISTRICT BOUNDARY *.	• • • • • • • • • • • • • • • • • • 20' SPACES BETWEEN DOTS	LABEL WITH LEVY DISTRICT ON EACH SIDE OF LINE. USE ON GEOCODE MAP ONLY.
MAP BORDER	▬▬▬	BORDER .6 in. IN FROM EDGE OF MYLAR WHEN POSSIBLE.
MAP DETAIL OR TITLE BLOCK BORDER	▬▬▬	SOME DETAILS MAY BE ONLY ON THE GEOCODE MAP SUCH AS SIGNIFICANT MOBILE HOME COURTS.

*NOTE IF THE SCHOOL LEVY DISTRICT BOUNDARY IS THE SAME AS THE CITY LIMIT LABEL "CITY LIMIT" AS WELL AS THE LEVY DISTRICT DESIGNATION.

SCALE OF MAP

1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
Line Pen Size / Lettering Template Size					
000	000	000	000	0000	0000
N/A	N/A	N/A	N/A	N/A	N/A
000	000	000	000	0000	0000
N/A	N/A	N/A	N/A	N/A	N/A
2	1	1	0	00	00
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
2	1	1	0	00	00
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
0	00	00	00	000	000
N/A	N/A	N/A	N/A	N/A	N/A
00	000	000	0000	0000	0000
N/A	N/A	N/A	N/A	N/A	N/A
00	000	000	0000	0000	0000
N/A	N/A	N/A	N/A	N/A	N/A
2	1	0	0	0	0
N/A	N/A	N/A	N/A	N/A	N/A
4	3	3	2	1	1
TEMP. TO FIT	TEMP. TO FIT	175 CL	140 CL	120 CL	100 CL
3	3	3	2	1	1
140 CL	120 CL	100 CL	80 CL	60 CL	60 CL
5	5	5	5	5	5
N/A	N/A	N/A	N/A	N/A	N/A
3	3	3	3	3	3
N/A	N/A	N/A	N/A	N/A	N/A

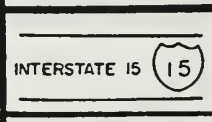
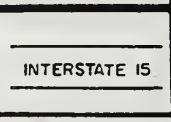
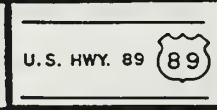
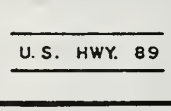
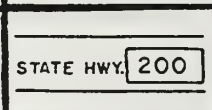
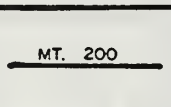
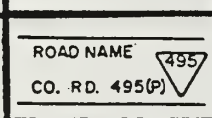
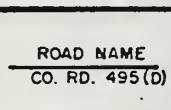
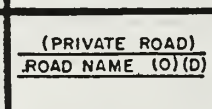
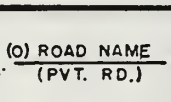
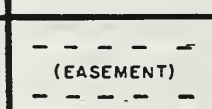
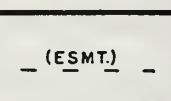
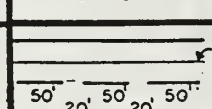
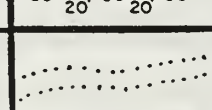
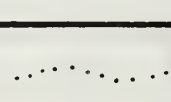
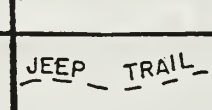
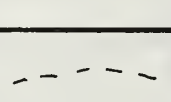
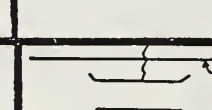
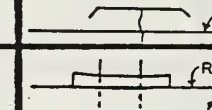
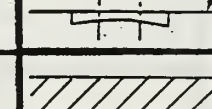
FEATURE LINE & BOUNDARY CONTINUED	SYMBOL MEASUREMENT AT 1:200	REMARKS
MILITARY SITE BOUNDARY		LABEL NAME OF SITE
NATIONAL BOUNDARY		LABEL NAME OF COUNTRY.
STATE BOUNDARY		LABEL STATE ON EACH SIDE OF LINE.
COUNTY BOUNDARY		LABEL COUNTY ON EACH SIDE OF LINE
NATIONAL OR STATE PARK OR RESERVATION BOUNDARY		LABEL TYPE OF OWNERSHIP AND PARK NAME.
FOREST, BLM LAND OR WILDLIFE REFUGE BNDRY.		LABEL TYPE OF OWNERSHIP AND NAME IF AVAILABLE.
CENTER LINE		*NOTE DISTANCE IS LONGER THAN SHOWN.
PIPE LINE OR POWER LINE		LABEL TYPE OF FEATURE.
RAILWAYS (USE TRACK SYMBOL ONLY FOR MAPS 1"=800' & 4"=1mi. IF R/W IS 100' OR LESS)		SHOW R/W AND LABEL. AT 1:800 AND 4"=1mi: SHOW R/W ABOVE 100'. FOR 100' OR LESS USE TRACK SYMBOL 30' SPACES.
LEASE SITE BOUNDARY		GEOCODE MAP ONLY. ALTERNATE 00 AND 000 PEN AT 10' SPACES. AT 1:800' AND 4"=1mi. SHOW WITH L/S AND LEADER TO SITE. IDENTIFY SITE WITH GEOCODE.
INCORPORATED CITY OR EQUIVALENT BOUNDARY *		GEOCODE MAP ONLY. USE WITH DISCRETION WHEN CITY LIMIT AND SCHOOL DISTRICT LINES ARE NOT THE SAME. LABEL "CITY LIMIT"

*NOTE: USE THIS SYMBOL ONLY WHEN THE SCHOOL LEVY DISTRICT BOUNDARY DIFFERS FROM THE CITY LIMIT BOUNDARY.

SCALE OF MAP

Line Pen Size / Lettering Template Size

1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
3	2	2	1	0	0
200 CL	175 CL	175 CL	140 CL	120 CL	120 CL
4	3	3	2	1	1
200 CL	175 CL	175 CL	140 CL	120 CL	120 CL
3	2	2	1	0	0
200 CL	175 CL	175 CL	140 CL	120 CL	120 CL
3	2	2	1	0	0
200 CL	175 CL	175 CL	140 CL	120 CL	120 CL
3	2	2	1	0	0
200 CL	175 CL	175 CL	140 CL	120 CL	120 CL
3	2	2	1	0	0
200 CL	175 CL	175 CL	140 CL	120 CL	120 CL
000	000	000	0000	0000	0000
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
00	000	000	0000	0000	0000
80 CL	60 CL	60 CL	60 CL	60 CL	60 CL
0	00	00	00	000	000
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
0/00	00/000	00/000	00/000	L/S	L/S
N/A	N/A	N/A	N/A	80 CL	80 CL
3	2	2	1	0	0
140 CL	120 CL	100 CL	80 CL	60 CL	60 CL

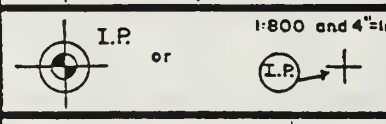
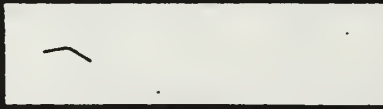
FEATURE ROAD LONG SCRIPT / ABBREVIATED SCRIPT	SYMBOL 1:100 to 1:600	1:800 to 4"=1mi.	REMARKS
INTERSTATE HIGHWAY INTERSTATE 15 or I-15			INTERSTATE R/W IN 00 PEN. IF FRONTAGE ROAD PART OF R/W USE LONG DASHED LINES TO DISTINGUISH IT FROM INTERSTATE
U.S. HIGHWAY U.S. HWY. 89 or U.S 89			R/W IN 00 PEN.
STATE HIGHWAY ST. HWY. 200 or MT. 200			R/W IN 00 PEN. AT 1:800 AND 4"=1mi USE SOLID LINE NO. 2 PEN.
COUNTY ROAD CO. RD. 495			LABEL ALL CO. RDS. WITH RD. NAME. R/W IN 00 PEN. AT 1:800 OR 4"=1mi USE 0 PEN. OPTION CONDITION CODE. LINE TYPE DASHED OR SOLID.
NAMED PRIVATE ROAD PVT. RD.			RD. EDGE IN 000 PEN WITH RD. NAME LABEL AS (PRIVATE ROAD). OPTION CONDITION CODE. 1:800 OR 4"=1mi. USE 00 PEN. DASHED OR SOLID LINE.
EASEMENT ESMT.			SHORT DASHED LINES. CONSISTENT SPACING BY DISCRETION. LABEL EASEMENT IN PARENTHESES.
ROADS BORDERING SECTION		N/A	USE 00 PEN FOR R/W WITH 000 PEN FOR SECTION LINE AS NEEDED LABEL RD. NAME.
UNDEDICATED ROADS			000 PEN FOR ROAD EDGES APPROXIMATED LOCATION OF RD. LABEL IF NAMED. CONSISTENT SPACING BY DISCRETION.
JEEP TRAIL			00 PEN FOR TRAIL. FOR 1:800 OR 4"=1mi USE 000. LABEL "JEEP TRAIL". CONSISTENT SPACING BY DISCRETION.
BRIDGE OVER SMALL WATERWAY			R/W PEN PER ROAD TYPE AND SCALE. BRIDGE 00 PEN. AT 1:800 OR 4"=1mi USE NO. 3 PEN.
HIGHWAY OR RAILROAD OVERPASS			R/W PEN PER ROAD TYPE AND SCALE. DASHED LINE FOR PORTION OF ROAD UNDER THE OVERPASS.
VACATED STREET, AVENUE OR ALLEY		N/A	LINES AT 45° ANGLE TO STREET. GEOCODE MAP ONLY. SHOW AS A PARCEL ON THE BASE MAP.

ALL SIGNIFICANT HIGHWAYS SHOULD BE LABELED IN SCRIPT FORM AS WELL AS SYMBOL FORM WHEN POSSIBLE.

SCALE OF MAP

1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
(Feature Pen Size/Symbol Pen Size) / (Symbol Template Size/Lettering Template Size)					
00 3	00 2	00 1	00 0	000 00	000 000
3/4 FOR SYM. 240 CL FOR NO.	5/8 FOR SYM. 200 CL FOR NO.	1/2 FOR SYM. 175 CL FOR NO.	3/8 FOR SYM. 140 CL FOR NO.	1/4 FOR SYM. 100 CL FOR NO.	SCRIPT LABEL 100 CL
00 2	00 1	00 0	00 00	000 000	000 0000
5/8 FOR SYM. 200 CL FOR NO.	1/2 FOR. SYM. 175 CL FOR NO.	3/8 FOR SYM. 140 CL FOR NO.	1/4 FOR SYM. 100 CL FOR NO.	SCRIPT LABEL 80 CL	SCRIPT LABEL 60 CL
00 1	00 0	00 00	00 000	2 0000	2 0000
1/2 FOR SYM. 175 CL FOR NO.	3/8 FOR SYM. 140 CL FOR NO.	1/4 FOR SYM. 100 CL FOR NO.	SCRIPT LABLE 80 CL	SCRIPT LABEL 60 CL	SCRIPT LABEL 60 CL
00 00	00 000	00 000	000 0000	0 0000	0 0000
3/8 FOR SYM. TEMP. TO FIT	1/4 FOR SYM. TEMP. TO FIT	1/8 FOR SYM. TEMP. TO FIT	SCRIPT LABLE 60 CL	SCRIPT LABEL 60 CL	SCRIPT LABEL 60 CL
000 N/A	000 N/A	000 N/A	000 N/A	00 N/A	00 N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT.	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
00 N/A	00 N/A	00 N/A	000 N/A	000 N/A	000 N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
00 N/A	00 N/A	00 N/A	000 N/A	N/A N/A	N/A N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A N/A	N/A N/A
000 N/A	000 N/A	000 N/A	0000 N/A	000 N/A	000 N/A
N/A 100 CL	N/A 80 CL	N/A 80 CL	N/A 60 CL	N/A 60 CL	N/A 60 CL
00 N/A	00 N/A	00 N/A	000 N/A	0000 N/A	0000 N/A
N/A 100 CL	N/A 80 CL	N/A 80 CL	N/A 60 CL	N/A 60 CL	N/A 60 CL
00 N/A	00 N/A	00 N/A	000 N/A	3 N/A	3 N/A
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
00 N/A	00 N/A	00 N/A	000 N/A	PER ROAD TYPE N/A	PER ROAD TYPE N/A
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
00 N/A	00 N/A	00 N/A	000 N/A	N/A N/A	N/A N/A
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A

SOME SYMBOL SIZES FROM *PICKETT* HIGHWAY SYMBOLS NO. 1168I

FEATURE CORNER	SYMBOL SECTION CORNER	1/4 CORNER	1/16 CORNER	REMARKS
RECORDED CORNER *				AT 1:800 SCALE, ONLY SECTION CORNER WILL USE CIRCLE; ALL OTHERS WILL USE DOT WITH PEN SIZE AS SHOWN.
RECORDED CORNER WITH OFFSET SECTIONS *				SOLID PART OF CIRCLE OR DOT TOWARD SECTION TO WHICH CORNER APPLIES. SEE ALSO ABOVE.
UNRECORDED CORNER *				AT 1:800 SCALE, ONLY SECTION CORNER WILL USE CIRCLE; ALL OTHERS WILL BE SHOWN AS CROSS INTERSECTIONS.
UNRECORDED CORNER WITH OFFSET SECTIONS *				SOLID PART OF CIRCLE TOWARD SECTION TO WHICH CORNER APPLIES. SEE ALSO ABOVE.
UNCERTAIN CORNER *				AT 1:800 SCALE, ONLY SECTION CORNER WILL USE CIRCLE; ALL OTHERS WILL BE SHOWN AS CROSS INTERSECTIONS. USE WITH UNCERTAIN SECTION LINE.
UNCERTAIN CORNER WITH OFFSET SECTIONS *				COMPLETED PORTION OF SECTION INTERSECTION TOWARD SECTION TO WHICH CORNER APPLIES.
INITIAL POINT				DISCRETIONARY CIRCLE SIZE. OUTSIDE CIRCLE SHOULD BE ⅛" LARGER. LABEL "I.P." AND POINT NO. AT 1:800 & 4"=1mi LABEL (I.P.) CIRCLED & LINE LEADER TO POINT.
DIRECTION CHANGE FOR LEGAL DESCRIPTION PATH				USE ONLY TO SHOW PATH TO P.O.B. IF SEVERAL PARCELS USE SAME (LONG & COMPLEX) DESCRIPTION BEFORE REACHING THE P.O.B. USE CONSERVATIVELY.
DESCRIPTION CORNER "TICK MARK"				USE IN RESPECT TO MULTIPLE LEGAL DESCRIPTIONS FOR A SINGLE PARCEL NUMBER OR DESCRIPTIONS THAT MAY GO TO THE CENTER OF A ROAD.
MINING CLAIM CORNER NUMBER INDICATOR				LABLE ONLY IF REFERENCED BY OTHER DESCRIPTIONS TO LOCATE PARCELS. LABEL IN PROXIMITY TO CORNER.

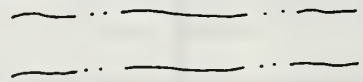
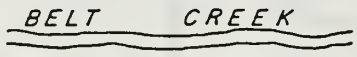
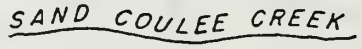
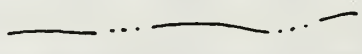
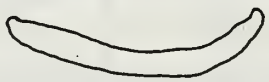
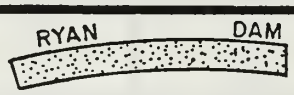
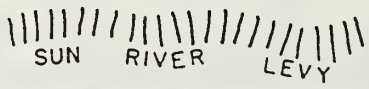
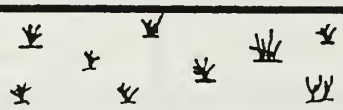
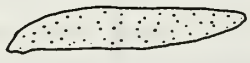
NOTE: SOME VARIATIONS BY COMBINING SYMBOLS MAY BE NEEDED.

* NOTE: AT 1"= 800' AND 4" = 1mi. SOME CIRCLES WILL NEED TO BE ELIMINATED AND REPLACED WITH A DOT (PEN SIZE SHOWN).

SCALE OF MAP

((CIRCLE SIZE OR PEN SIZE (IN PARENTHESIS)) / LINE PEN SIZE) / LETTERING TEMPLATE SIZE

1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
1/4" 3/16" (3) 00	1/4" 3/16" (2) 000	1/4" 3/16" (2) 000	3/16" 1/8" (1) 000	1/8" (1) (0) 0000	(1) (0) (00) 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
1/4" 3/16" (3) 00	1/4" 3/16" (2) 000	1/4" 3/16" (2) 000	3/16" 1/8" (1) 000	1/8" (1) (0) 0000	(1) (0) (00) 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
1/4" 3/16" N/A 00	1/4" 3/16" N/A 000	1/4" 3/16" N/A 000	3/16" 1/8" N/A 000	1/8" N/A N/A 0000	—— N/A —— 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
1/4" 3/16" N/A 00	1/4" 3/16" N/A 000	1/4" 3/16" N/A 000	3/16" 1/8" N/A 000	1/8" N/A N/A 0000	—— N/A —— 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
1/4" 3/16" N/A 00	1/4" 3/16" N/A 000	1/4" 3/16" N/A 000	3/16" 1/8" N/A 000	1/8" N/A N/A 0000	—— N/A —— 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
1/4" 3/16" N/A 00	1/4" 3/16" N/A 000	1/4" 3/16" N/A 000	3/16" 1/8" N/A 000	1/8" N/A N/A 0000	—— N/A —— 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
DISCRETION 00	DISCRETION 000	DISCRETION 000	DISCRETION 000	DISCRETION 0000	DISCRETION 0000
120 CL	100 CL	80 CL	80 CL	60 CL	60 CL
DOT SIZE (2) 00	DOT SIZE (1) 000	DOT SIZE (1) 000	DOT SIZE (0) 000	DOT SIZE (00) 0000	DOT SIZE (00) 0000
N/A	N/A	N/A	N/A	N/A	N/A
N/A 00	N/A 00	N/A 00	N/A 000	N/A 000	N/A 0000
N/A	N/A	N/A	N/A	N/A	N/A
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
100 CL / 60 CL	100 CL / 60 CL	100 CL / 60 CL	100 CL / 60 CL	100 CL / 60 CL	100 CL / 60 CL

FEATURE WATER	SYMBOL	REMARKS
PRESENT RIVER CHANNEL		ITALIC LABEL.
RIVER CHANNEL FOR G. L. O. PURPOSES		GEOCODE MAP ONLY. RED PLASTIC LEAD FOR RIVER EDGES. CONSISTENT DISCRETION SPACING. DO NOT LABEL.
CREEK OR LARGE IRRIGATION CANAL		ITALIC LABEL.
PERENNIAL STREAM		ITALIC LABEL.
INTERMITTENT STREAM OR SMALL IRRIGATION CANAL		CONSISTENT DISCRETION SPACING.
LAKE, RESERVOIR OR POND		ITALIC LABEL.
OX-BOW LAKE (OLD RIVER CHANNEL)		OPTIONAL LABEL.
DAM - CONCRETE		LABEL WITH NAME IF KNOWN. DISCRETION DOT PATTERN SPACING.
DAM - EARTH FILLED		LABEL WITH NAME IF KNOWN.
DIKE OR LEVY		CONSISTENT DISCRETION SPACING. SHORT APPROX/MAT EQUAL LENGTH LINES. LABEL IF KNOWN. USE ON GEOCODE MAP ONLY.
MARSH AREA		CONSISTENT DISCRETION SPACING. USE ON GEOCODE MAP ONLY
SAND BAR ISLAND		DISCRETION DOT PATTEAN.

SCALE OF MAP

Line Pen Size / Lettering Template Size

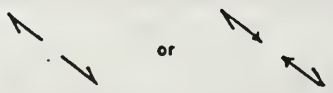
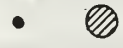
1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
00	000	000	000	0000	0000
ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT
N/A	N/A	N/A	N/A	N/A	N/A
DO NOT LABEL	DO NOT LABEL	DO NOT LABEL	DO NOT LABEL	DO NOT LABEL	DO NOT LABEL
00	000	000	000	0000	0000
ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT
00	000	000	000	0000	0000
ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT
00	000	000	000	0000	0000
N/A	N/A	N/A	N/A	N/A	N/A
00	000	000	000	0000	0000
ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT	ITALIC TEMP. TO FIT
00	000	000	000	0000	0000
OPTIONAL TEMP. TO FIT	OPTIONAL TEMP. TO FIT	OPTIONAL TEMP. TO FIT	OPTIONAL TEMP. TO FIT	OPTIONAL TEMP. TO FIT	OPTIONAL TEMP. TO FIT
0	00	00	00	000	000
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
0	00	00	00	000	000
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
0	00	00	00	000	000
TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT	TEMP. TO FIT
0	00	00	00	000	000
N/A	N/A	N/A	N/A	N/A	N/A
00	000	000	000	0000	0000
N/A	N/A	N/A	N/A	N/A	N/A

FEATURE PARCEL IDENTIFIER	SYMBOL	REMARKS
ADDITION BLOCK NUMBER	12 TEMPLATE TO FIT	DUE TO BLOCK SIZE VARIATIONS USE DISCRETION FOR TEMPLATE SIZE. NUMBERS MAY BE LOCATED OUTSIDE OF BLOCK AREA.
CONVENIENCE PLAT ADDITION BLOCK NUMBER	(12) TEMPLATE TO FIT	SEE ABOVE. SEE ALSO CONVENIENCE PLAT DESCRIPTION.
ADDITION LOT NUMBER	15 TEMPLATE TO FIT	DUE TO LOT SIZE VARIATIONS USE DISCRETION FOR TEMPLATE SIZE. IT IS NOT NECESSARY TO NUMBER ALL LOTS IF THEY ARE SEQUENTIAL.
CONVENIENCE PLAT ADDITION LOT NUMBER	(15) TEMPLATE TO FIT	SEE ABOVE. SEE ALSO CONVENIENCE PLAT DESCRIPTION.
PLAT REFERENCE IDENTIFIER	5B TEMPLATE TO FIT	LOCATE AT LOWER RIGHT OF PARCEL IF POSSIBLE. SHOW ON GEOCODE MAP ONLY.
GEOCODE TOWNSHIP IDENTIFIER	2774 LOCATE IN TITLE BLOCK	GEOCODE MAP ONLY. LOCATE IN TITLE BLOCK.
GEOCODE SECTION IDENTIFIER 1:100 to 1:600	35 LOCATE IN TITLE BLOCK	GEOCODE MAP ONLY. LOCATE IN TITLE BLOCK WITH TOWNSHIP NUMBER. FOR MULTIPLE SECTION MAPS DISPLAY WITH TOWNSHIP NUMBER SOMEWHERE WITHIN EACH SECTION.
GEOCODE SECTION IDENTIFIER 1:800 to 4"=1mi.	3/16" (35) LOCATE IN CENTER OF SECTION	SHOW ON BASE MAP. LOCATE CLOSE TO CENTER OF SECTION.
GEOCODE 1/4 SECTION AND BLOCK IDENTIFIER 1:100 to 1:600	(2-01) 35° 1/2" ELLIPSE (0) PEN	GEOCODE MAP ONLY. LOCATE TOWARD MIDDLE OF BLOCK. FOR RURAL AREAS MORE THAN ONE MAY BE NEEDED. VARY SIZE IF NEEDED FOR COMPLEX AREAS SEE BELOW.
GEOCODE 1/4 SECTION, BLOCK, LOT & UNIT NUMBER IDENTIFIER 1:800 to 4"=1mi.	2-01-20 or 2-01-20-C001	GEOCODE MAP ONLY. HAND WRITTEN. LOCATE TOWARD MIDDLE OF PARCEL. SHOW UNIT NUMBER IF NEEDED. FOR MULTIPLE SECTION MAPS SHOW SECTION NUMBER PORTION TOO.
GEOCODE LOT AND UNIT NUMBER IDENTIFIER 1:100 to 1:600	x 20 or x 20-C001	GEOCODE MAP ONLY. HAND WRITTEN. LOCATE TOWARD MIDDLE OF PARCEL. SHOW UNIT NUMBER IF NEED. FOR MULTIPLE SECTION MAPS SEE ABOVE.
CERTIFICATE OF SURVEY	C/S, 1495	GEOCODE MAP ONLY. MAY BE HAND WRITTEN IF DESIRED. SHOW ALSO ACRES FOR SURVEY.

NOTE: FOR SUBDIVISION NAME TEMPLATE SIZE TO FIT AS DESIRED. SHOW ON BASE MAP.

SCALE OF MAP

1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
(Feature Pen Size or Symbol Pen Size) / (Symbol Template Size / Lettering Template Size)					
N/A	N/A	N/A	N/A	N/A	N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
00	000	000	000	000	000
SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT
N/A	N/A	N/A	N/A	N/A	N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
00	000	000	000	000	000
SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT	SIZE TO FIT TEMP. TO FIT
N/A	N/A	N/A	N/A	N/A	N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
N/A	N/A	N/A	N/A	N/A	N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
N/A	N/A	N/A	N/A	N/A	N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A N/A	N/A N/A
N/A	N/A	N/A	N/A	000	000
N/A N/A	N/A N/A	N/A N/A	N/A N/A	3/16" 80 CL	3/16" 80 CL
0	0	0	0	N/A	N/A
1/2" — 35° 120 CL	1/2" — 35° 120 CL	1/2" — 35° 120 CL	1/2" — 35° 120 CL	N/A N/A	N/A N/A
N/A	N/A	N/A	N/A	000	000
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
000	000	000	000	N/A	N/A
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
DISCRETION	DISCRETION	DISCRETION	DISCRETION	DISCRETION	DISCRETION
N/A DISCRETION	N/A DISCRETION	N/A DISCRETION	N/A DISCRETION	N/A DISCRETION	N/A DISCRETION

FEATURE OTHER	SYMBOL	REMARKS
UNPLATTED AREA	1:100 to 1:600 1:800 to 4"=1 mi	USE FOR AREAS THAT MAY BE SURROUNDED BY SUBDIVISION BOUNDARIES BUT IS NOT PART OF ANY PLAT.
ABANDONED LAND	1:100 to 1:600 1:800 to 4"=1mi	USE FOR ANY ABANDONED LAND
GOVERNMENT LOT	1:100 to 1:400 1:600 to 4"=1mi	
IMPROVEMENT OWNED SEPARATELY FROM LAND		USE ONLY ON GEOCODE MAP. SHOW WITH GEOCODE.
COMMON OWNERSHIP FOR ADJOINING PARCELS		USE TO SHOW MULTIPLE PARCELS WITH ONE OWNER. USE ONLY ON GEOCODE MAP.
COMMON OWNERSHIP ACROSS OTHER OWNERSHIP		USE TO SHOW MULTIPLE PARCELS WITH ONE OWNER THAT MAY CROSS OVER ROADS OR OTHER OWNER. USE ONLY ON GEOCODE MAP.
CLIFF, BUTTE, STEEP INCLINE OR BREAK IN LAND		USE ONLY ON GEOCODE MAP. USE CONSERVATIVELY.
OIL WELL AND OIL FIELD	OIL WELL OIL FIELD	USE ONLY ON GEOCODE MAP.
WATER TOWER	1:100 to 1:400 small large  1:600 to 4"=1mi	USE ONLY ON GEOCODE MAP.
RADIO OR TV TOWER		USE ONLY ON GEOCODE MAP.
GRAVEL PIT OR MINE SITE		USE ONLY ON GEOCODE MAP.
MILITARY MISSILE SITE	20° ellipse 3/32" → 9/64" →	USE ONLY ON GEOCODE MAP. SEE ALSO MILITARY SITE BOUNDARY.

Note: Government lots that have disappeared because of river movement use red plastic lead for the lot symbol and show only on geocode map. See also G.L.O. river edge for water feature.

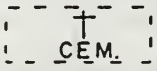
Symbol template - Pickett General Purpose Inking Template No. 1085I.

SCALE OF MAP

1:100 1:200 & 1:300 1:400 1:600 1:800 4"=1mile

(Feature Pen Size or Symbol Pen Size) / (Symbol Template Size / Lettering Template Size)

00	000	000	000	0000	0000
3/8" 100 CL	1/4" 80 CL	1/4" 80 CL	1/4" 80 CL	1/8" 60 CL	1/8" 60 CL
00	000	000	000	0000	0000
3/8" 100 CL	1/4" 80 CL	1/4" 80 CL	1/4" 80 CL	1/8" 60 CL	1/8" 60 CL
00	000	000	0000	0000	0000
1/4" 60 CL	1/4" 60 CL	1/4" 60 CL	1/8" 60 CL	1/8" 60 CL	1/8" 60 CL
000	000	000	000	000	000
1/8" N/A	1/8" N/A	1/8" N/A	1/8" N/A	1/8" N/A	1/8" N/A
000	000	000	000	000	000
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
000	000	000	000	000	000
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
00	00	00	000	000	000
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
000	000	000	000	000	000
CIR 1/8" HEX 3/16" 100 CL	CIR 3/32" HEX 1/8" 80 CL	CIR 3/32" HEX 1/8" 80 CL	CIR 3/32" HEX 1/8" 80 CL	CIR 3/32" HEX 1/8" 60 CL	CIR 3/32" HEX 1/8" 60 CL
000	000	000	(5)	(5)	(5)
(5) 3/16" 100 CL	(5) 5/32" 100 CL	(5) 5/32" 80 CL	(5) 80 CL	(5) 60 CL	(5) 60 CL
000	000	000	000	0000 (5)	0000 (5)
3/32" 100 CL	3/32" 100 CL	3/32" 80 CL	1/8" 80 CL	(5) 60 CL	(5) 60 CL
000	000	000	000	0000	0000
1/8" 100 CL	1/8" 100 CL	1/8" 80 CL	1/8" 80 CL	1/8" 60 CL	1/8" 60 CL
000	000	000	000	000	000
3/32" 9/64" 100 CL	3/32" 9/64" 100 CL	3/32" 9/64" 80 CL	3/32" 9/64" 80 CL	3/32" 9/64" 60 CL	3/32" 9/64" 60 CL

FEATURE OTHER CONTINUED	SYMBOL	REMARKS
CEMETERY		USE FOR SMALLER CEMETERIES IF UNABLE TO SHOW THE LEGAL BOUNDARY.
SCHOOL		USE ON GEOCODE MAP ONLY. USE ONLY WHEN SCALE INHIBITS DELINEATION OF ACTUAL PARCEL.
CHURCH		USE ON GEOCODE MAP ONLY. USE ONLY WHEN SCALE INHIBITS DELINEATION OF ACTUAL PARCEL.
RAILROAD STATION		USE ON GEOCODE MAP ONLY.
SMALL AIRSTRIP		USE FOR SMALL OR PRIVATE AIRSTRIP. USE ON GEOCODE MAP ONLY.
TOWNSHIP AND RANGE IDENTIFIER	T. 20 N. R. 3 E. or T. 20 N. , R. 3 E.	
CENTER LINE	℄	USE FOR SIGNIFICANT CENTER LINES. SEE ALSO CENTER LINE SYMBOL.
APPROXIMATELY EQUAL TO	≈	USE THIS TO INDICATE WHEN A MAP SCALE IS NOT EXACT. BUT MAY BE CLOSE TO WHAT IS SHOWN. (MOBILE HOME CT DETAIL)
NOTATION REFERENCED OUT OF MAPPED AREA	*	USED TO CLARIFY MAPPED INFORMATION TO NOTES OUT OF MAP AREA. MULTIPLE STARS MAY BE USED IF NEEDED.

Symbol template - Pickett General Purpose Inking Template No. 1085I.

SCALE OF MAP

1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile
(Feature Pen Size or Symbol Pen Size) / (Symbol Template Size / Lettering Template Size)					
00	000	000	000	0000	0000
N/A 100 CL	N/A 100 CL	N/A 80 CL	N/A 80 CL	N/A 60 CL	N/A 60 CL
000	000	000	000	000	000
1/8" 100 CL	1/8" 100 CL	1/8" 80 CL	1/8" 80 CL	1/8" 60 CL	1/8" 60 CL
000	000	000	000	000	000
1/8" 100 CL	1/8" 100 CL	1/8" 80 CL	1/8" 80 CL	1/8" 60 CL	1/8" 60 CL
000	000	000	000	000	000
1/8" 100 CL	1/8" 100 CL	1/8" 80 CL	1/8" 80 CL	1/8" 60 CL	1/8" 60 CL
00	000	000	000	000	000
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
N/A	N/A	N/A	N/A	N/A	N/A
N/A 120 CL	N/A 100 CL	N/A 80 CL	N/A 80 CL	N/A 60 CL	N/A 60 CL
N/A	N/A	N/A	N/A	N/A	N/A
N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT	N/A TEMP. TO FIT
00	00	00	00	00	00
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
000	000	000	000	000	000
N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A

Prepared by Thomas DuPaul

FEATURE	SYMBOL	REMARKS

SCALE OF MAP					
1:100	1:200 & 1:300	1:400	1:600	1:800	4"=1mile

CHAPTER 6

DEEDS AND TRANSFER OF TITLE

Title to real estate may be transferred in four ways. The first two take effect after the death of the owner and the last two during the owner's lifetime.

The title of an owner who dies without a will (intestate) passes according to the provisions of the law of descent of the state in which the real estate is located. The real estate of an owner who makes a valid will (died testate) passes to the devisees through the probating of the will. Generally, an heir or a devisee will not receive a deed, as title passes by the law or the will. Probate is a legal process by which a court determines who will inherit a deceased person's property and what the assets are of the deceased's estate.

An owner's title may be transferred without his or her permission by a court action, such as a foreclosure or judgment sale, a tax sale, condemnation under the right of eminent domain, adverse possession, or escheat. Land may be also transferred by the natural forces of water and wind which either increase property by accretion or decrease it through erosion.

The voluntary transfer of an owner's title is made by a deed, executed (signed) by the owner as grantor to the purchaser, or donee as grantee. The form and execution of a deed must comply with the statutory requirements of the state in which the land is located. The obligation of a grantor is determined by the form of the deed; that is, whether it is a general warranty deed, grant deed, special warranty deed, bargain and sale deed, or quitclaim deed. The words of conveyance in the granting clause are important in determining the form of deed.

In order to create a valid conveyance, a deed must meet the appropriate state requirements. Among the most common of these are: a grantor with legal capacity to contract, a readily identifiable grantee, a granting clause, a legal description of the property, a recital of consideration, exceptions and reservations on the title ("subject to" clause), and the signature of the grantor, properly witnessed if necessary. In addition, the deed should be acknowledged before a notary public or other officer in order to provide evidence that the signature is genuine and to allow recording. If required by state law, deeds are subject to state transfer taxes when they are recorded. Title to the property passes when the grantor delivers a deed to the grantee and it is accepted.

DEEDS

A deed is a written instrument by which an owner of real estate intentionally conveys to a purchaser his or her right, title, or interest in a parcel of real estate. All deeds must be in writing in accordance with the requirements of the statute of frauds. The owner (who sells or gives the land) is referred to as the grantor, and the purchaser (who acquires the title) is called the grantee. (When using these terms remember that the "or" has the title and the "ee" is to receive the title.) A deed is executed (or signed) by the grantor.

DESCRIPTIONS

The heart or center of all recorded papers is the description that is used to identify the particular piece of property.

A description is the outline of a certain area. It is the proper grouping of words which delineates and describes one and only one specific piece of land and which cannot apply to any other piece of land. It is called a "Legal Description" because it must stand up under the law and support itself in court.

Every description has two parts, namely:

1. "Caption" which embraces a limited area. It is like a camera pointed in the general direction.

2. "Body" which is the complete area. It is like the camera being focused on the subject matter.

The person's slogan in writing a description is:

"CONCISE CLARITY WITHOUT AMBIGUITY"

The preferred method in writing a description is whatever combination of words is required to give the clearest and shortest description possible.

DO NOT use superfluous words and also DO NOT omit necessary words and phrases.

There is a relationship between descriptions and surveys. Descriptions in deeds and patents which are recorded in the Clerk and Recorder's Office control the surveys, but if a survey is made to create a description then it controls.

Some examples of surveys controlling descriptions are:

- Original Government Surveys (so that patents can be issued)
- Certificate of Survey (Tracts)
- Subdivisions (Lots and Blocks)
- Condominiums (Cubes of Air)
- Aerial Easements (Bridges and Walkways Over Streets)
- Aviation Easements (Air Space for Planes)
- Mining Claims (Location of lode controls the outer limits of the Survey)
- Underground Easements (Telephone, Power and Pipelines)

REAL PROPERTY TRANSFERS

Transfer is defined by 70-1-501, MCA, as follows:

> "Transfer is an act of the parties or of the law by which the title to property is conveyed from one living person to another."

Transfers may be **voluntary** or **involuntary**.

Examples of **voluntary** or contractual transfers include but are not limited to:

- Patents - United States and State of Montana
- Warranty Deeds
- Grant Deeds
- Quitclaim Deeds
- Contracts For Deed which include a Notice of Purchaser's Interest or Abstract of Contract For Deed
- Trust Deeds
- Bargain and Sale Deeds
- Land and Water Deeds
- Water Deeds
- Mineral Deeds
- Right-of-Way Deeds
- Gift Deeds
- Special Warranty Deeds
- Resolutions

Not all types of property transferred will be subject to ad valorem property tax by state and local governments.

Examples of **involuntary** transfers include but are again not limited to:

- Quiet Title Decrees
- Decrees of Distribution
- Personal Representative Deeds of Distribution
- Sheriff's Certificates of Sale
- Sheriff's Deeds
- United States Marshall Deeds
- Internal Revenue Sale Deeds
- County Tax Deeds
- Trustee's Deeds
- Deed Executed Pursuant to a Court Order
- INH-3 (Inheritance Tax)

What may be conveyed?

> "Property of any kind may be transferred, except as otherwise provided by this part" as per 70-1-503, MCA.

Thus, any interest in real property, whether present or future, vested or contingent, may be transferred. This includes but is not limited to:

- A Fee Simple
- An Easement
- An Undivided Interest
- A Life Estate or Estate for Years
- A Vendee's Interest
- A Vendor's Interest
- A Lessee's Interest
- A Lessor's interest
- Mineral Interest
- Timber Interest
- Solar Easements as specified in 70-17-301, MCA and 70-17-302, MCA

Section 70-1-504, MCA, states as follows:

> "A mere possibility not coupled with an interest cannot be transferred".

A transfer also transfers all its incidents. 70-20-308, MCA, states that a transfer of real property passes all easements attached thereto.

70-20-302, MCA, provides as follows:

> "Where a person purports by proper instrument to grant real property in fee simple and subsequently acquires any title or claim of title thereto, the same passes by operation of law to the grantee or his successors."

Thus a deed of all property owned or thereafter acquired (without a specific description in the deed) is valid as to property owned at its date, but it is invalid as to property subsequently acquired, since the property must have either actual or potential existence, and a mere possibility cannot be transferred. The exception that if the transfer is founded on an adequate consideration, the conveyance may be enforceable in court as an agreement to convey or the grantor may be estopped from refusing to convey.

How is real property conveyed?

Over ninety percent of the real property is conveyed by:

- Warranty Deed
- Grant Deed
- Quitclaim Deed
- Bargain and Sale Deed for the State of Montana acting by and through its State Highway Commission
- Condominium Deed

The formal requisites for all valid deeds are:

- Must be in writing
- Must have competent parties, legal capacity to contract for the Grantor as well as the Grantee
- Must have operative words of conveyance
- Must sufficiently describe the property to be conveyed so that the land can be identified on the ground by a licensed surveyor
- Must have a proper execution
- Must be acknowledged
- Must contain an address of the Grantee
- Must have a delivery by the Grantor
- Must have an acceptance by the Grantee

If there is not a substantial identity between the record owner, who is the prior grantee, and the grantor in the deed, the deed would not impart constructive notice and so render the land conveyed not marketable.

Warranty Deeds

A Warranty Deed is a conveyance form which contains "WARRANTY" language either expressly in the instrument or by reference to 30-11-110, MCA. It goes beyond the "IMPLIED WARRANTIES" of the grant deed. A Warranty Deed warrants the title to be that of the grantor and subject only to the matters disclosed therein. This type of deed provides a legal recourse by the buyer against the sellers of the property.

Note that the covenants in a general warranty deed are not limited to matters that occurred during the time the grantor owned the property, but extend back through the chain of title to its origins.

Grant Deeds

In certain areas of the country, the grant deed has replaced the warranty deed as the most popular form on conveyance. A grant deed carries two implied warranties: (1) that the owner has the right to convey the property as stated in the deed and (2) that the owner has not encumbered the property except as noted in the deed. In addition, the grant deed conveys to the grantee any future, or after-acquired, title to the property that the owner may later acquire. For example, if at the time of conveyance the grantor had an interest in the property that was less than he or she thought or was defective and the grantor acquired title or perfected the title after the conveyance, this after-acquired title would automatically pass to the grantee. These warranties are not stated in the deed but are implied by the use of the word "grant" in the deed's words of conveyance. Clearly, a grant deed contains fewer warranties than a general warranty deed; specifically, it does not warrant against the acts of any previous owners. As discussed, this type of deed is not in general use throughout the country, but it is commonly used in California and many of the western states in conjunction with a title insurance policy which protects a new owner against prior liens and claims against the property.

A Grant Deed usually uses the word "GRANT" in the conveyance or an estate or fee-simple title and unless it is restrained by express terms therein, it implies on the part of the grantor and his heirs to the grantee and his heirs and assigns, certain implied covenants and warranties which are spelled out in 70-20-304, MCA.

Quitclaim Deeds

A Quitclaim Deed is frequently used to cure a technical defect in the chain of title, or a "cloud on the title." For example, if the warranty deed misspells the name of the grantee, a quitclaim deed with the correct spelling may be executed to the grantee in order to perfect the title. When a deed is to be used for the special purpose of clearing a cloud on the title or releasing an interest in property of which the grantor never had possession, caution should be used in selecting the form of the deed. If a grantor "grants and releases," he will probably be bound by a covenant that he has possession, but if he "releases and quitclaims all interest, if any," then the quitclaim deed will pass, without warranty, any title the grantor may have.

A quitclaim deed provides the grantee with the least protection of any deed. It carries no covenant or warranties and, in most states, usually conveys only such interest, if any, that the grantor may have when the deed is delivered. By a quitclaim deed, the grantor only "remises, releases, and quitclaims" his or her interest in the property to the grantee.

In some states, a quitclaim deed does not necessarily purport that property is conveyed; rather, it conveys only the grantor's right, title, or interest, whatever that may be. Thus, if the grantor has no interest in the property, the grantee will acquire nothing by virtue of the quitclaim deed, nor will he or she acquire any right of warranty claim against the grantor. A quitclaim deed can, however, convey title as effectively as a warranty deed if the grantor has good title when he or she delivers the deed, but there are no warranties.

A Quitclaim Deed is also used when a grantor allegedly has inherited property but is not certain of the validity of the title of the descendent from whom the property was inherited. The use of a warranty deed in such an instance could carry with it obligations of warranty, whereas a quitclaim deed would convey only the grantor's interest.

A Quitclaim Deed may be in the same form as a Grant Deed, with the word "GRANT" changed to "QUITCLAIM." A quitclaim deed conveys all of the right, title and interest owned by the grantor at the date of such a deed; but if the quitclaim deed has a "habendum clause" then after - acquired title may possibly pass. A habendum clause may enlarge, lessen, explain, or qualify the estate granted by the granting clause.

The customary language for a "habendum clause" is:

- "To have and to hold the said bargained premises, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of the said party of the second part, his heirs and assigns forever, in fee simple"; or

- "To have and to hold, all and singular the above mentioned and described premises unto the said party of the second part, and to its successor and assigns forever"; or

- "To have and to hold, all and singular the above mentioned and described premises unto the said parties of the second part, as joint tenants with right of survivorship (and not as tenants in common) and to the heirs and assigns of the survivor of said named joint tenants forever."

Granting Clause (Words of Conveyance)

A deed of conveyance transfers a present interest in real estate. Therefore, it must contain words of grant which state the grantor's intention to convey the property at this time; an expression of intent to convey at some future time is inadequate. Such words of grant, or conveyance, are contained in the granting clause. Depending on the type of deed and the obligations agreed to by the grantor, the wording is generally either "convey and warrant," "grant," "grant, bargain, and sell," or "remise, release, and quitclaim."

If more than one grantee is involved, the granting clause should cover the creation of their specific rights in the property and state. For example, the grantees will take title as joint tenants or tenants in common. The wording is especially important in states where specific wording is necessary to create a joint tenancy.

In most cases, title of property in joint tenancy with right of survivorship can be transferred to the surviving tenant by recording a termination of joint tenancy or an approved application for determination of inheritance tax (INH-3).

The granting clause should also include words indicating what interest in the property is being conveyed by the grantor. Deeds which convey the entire fee simple interest of the grantor usually contain such wordings as "to Jacqueline Smith and to her heirs and assigns forever." If the grantor is conveying less than his or her complete interest, such as a life estate to property, the wording must indicate this limitation on the grantee's interest. For example, a deed creating a life estate would convey property "to Jacqueline Smith for the duration of her natural life."

The cases have held that in the strict construction of deeds, any repugnancy between the habendum clause and the granting clause will invalidate the habendum clause and thus allowing the granting clause to prevail.

Installment Contracts/Contracts For Deed

A real estate sale can be made under an installment contract, sometimes called a contract for deed or land contract of sale. In other words, the real estate is sold under contract. Basically, an installment contract is a means of financing a buyer's purchase of land whereby the seller receives a nominal down payment and regular periodic payments (usually monthly) over a number of years, in accordance with the contract terms. Installment contracts require the purchaser to pay the seller interest on the unpaid balance of the purchase price.

When real estate is sold under an installment contract, title to the real estate remains in the vendor's (seller's) name during the term of the contract. The vendee (purchaser) will not receive a deed to the property until the entire purchase price has been paid and the terms of the contract are fully complied with. However, the purchaser will take possession when the contract is executed and is customarily obligated to pay the annual taxes, insurance premiums, and maintenance expenses.

A contract is defined as an agreement made by competent parties, with adequate consideration, to do or not to do some proper, or legal, action.

Subsequent documents regarding contracts for deed might assign the seller's interest in the contract to another party and will not change the ownership; or it may assign the buyer's interest which will affect the ownership on the tax roll. Careful perusal of the document is necessary to determine its intent.

Bargain and Sale Deeds

Deeds using the words "grant and release" or "grant, bargain, and sell" in the granting clause are usually bargain and sale deeds. A bargain and sale deed contains no real warranties against encumbrances. However, it does imply that the grantor holds title and possession of the property. Because the warranty is not specifically stated, the grantee has little legal recourse if defects later appear in the title. Note that in some areas, a covenant against encumbrances initiated by the grantor may be added to a standard bargain and sale deed to create a bargain and sale deed with covenant against the

grantor's acts. This deed is roughly equivalent to a special warranty deed. In other areas, warranties used in general warranty deeds may be inserted in a bargain and sale deed to give the grantee similar protection.

The Bargain and Sale Deed used by the State of Montana is dictated by the Federal Government. Acquired right of ways thereunder are reimbursed up to 90%, so they can prescribe the form of conveyances they will accept.

Special Warranty Deeds

A special warranty deed is a conveyance that carries only one covenant. The grantor warrants only that the property was not encumbered during the time he or she held title except as noted in the deed. Special warranty deeds generally contain the words "remise, release, alien, and convey" in the granting clause. Any additional warranties to be included must be specifically stated in the deed.

A special warranty deed is usually used by fiduciaries, such as trustees, executors, and corporations, and sometimes by grantors who have acquired title at tax sales. It is based on the theory that a fiduciary or corporation has no authority to warrant against acts of its predecessors in title. Such unauthorized warranties by a corporation are considered to be beyond the scope and authority of the corporate powers and are referred to as ultra vires. Fiduciaries may hold title for a limited time and have no personal interest in the proceeds.

The contents for a condominium deed are set forth in 70-23-601, MCA.

Deeds in Trust

A deed in trust is used to convey real estate to a trustee, usually in order to establish a land trust. Under the terms of such an instrument, full powers to sell, contract to sell, mortgage, subdivide, and the like, are granted to the trustee. The trustee's use of these powers, however, is controlled by the beneficiary under the provisions of the trust agreement. Deeds in trust are used in those states which recognize land trusts.

Trustee's Deed

A trustee's deed is a deed of conveyance executed by a trustee. It is usually used when a trustee named in a will, agreement, or deed in trust sells or conveys title of the trust real estate out of the trust. Such an instrument sets forth the fact that the trustee executes the instrument in accordance with the powers and authority granted to him or her by the trust instrument or the deed in trust.

Deeds Executed Pursuant to Court Order

This classification includes such deed forms as executors' deed, masters' deeds, administrators' deeds, sheriffs' deeds, and many others. These statutory deed forms are used to convey title to property that is transferred by court order or by will. The forms of such deeds must conform to the laws of the state where the property is located.

One characteristic of such instruments is that the full consideration is usually stated in the deed. This is done because the deed is executed pursuant to an order of court, and since the court has authorized the sale of the property for a given amount of consideration, this amount should be exactly stated in the document.

Leases

A lease is a contract in which the owner agrees to give possession of all or a part of the real estate to another person in exchange for a rental fee.

Resolutions

Local governments and tax entities may in some circumstances, pass resolutions which will affect property ownership. Street, alley and road abandonments or vacations, and annexations of land into incorporated cities or towns are examples.

There are other instruments which affect title to property but may not have the effect of conveying title. These include mortgages and trust deeds (deeds of trust). These documents are not intended to convey title but rather to establish real estate as security for the payment of a debt. While the names of these instruments are similar to others discussed, the purpose of these deeds is different.

Transfer By Involuntary Alienation

Title to property can be transferred involuntarily, that is, without the owner's consent. Such transfers are usually carried out by operations of law ranging from government condemnation of land for public use to the sale of property to satisfy delinquent tax or mortgage liens. When a person dies intestate and leaves no heirs, the title to his or her real estate passes to the state by operation of law based on the principle of escheat.

Federal, state, and local governments, school boards, some government agencies, and certain public and quasi-public corporations and utilities (railroads, gas and electric companies) have the power of eminent domain. Under this power, private property may be taken for public use through a suit for condemnation. The exercise of eminent domain is subject to a court's determination of two necessary conditions: (1) that the use is for the benefit of the public, and (2) that an equitable amount of compensation, as set by the court, will be paid to the owner.

Land may also be transferred without an owner's consent in order to satisfy debts contracted by the owner. In such cases the debt is foreclosed, the property is sold, and the proceeds of the sale are applied to pay off the debt. Debts that could be foreclosed include mortgage loans, real estate taxes, mechanics' liens, or general judgments against the property owner.

In addition to the involuntary transfer of land by legal processes, land may be transferred by natural forces. Owners of land bordering on rivers, lakes, and other bodies of water may acquire additional land through the process of accretion. Accretion is the slow accumulation of soil, rock, or other matter deposited by the movement of water on an owner's property. The opposite of accretion is erosion, the gradual wearing away of land by the action of water and wind.

Adverse possession is another means of involuntary transfer. An owner who does not use his or her land or does not inspect it for a number of years may lose title to another person who has some claim to the land, takes possession, and most importantly, uses the land. Usually the possession of the claimant must be open, notorious, hostile, and uninterrupted for the number of years set by state law (as long as ten to twenty years in some states). Through adverse possession, the law recognizes that the use of land is an important function of its ownership. In many cases, an adverse user's rights may supersede those of a fee owner. The subject of adverse possession is extremely technical, as the right is statutory, and state requirements must be carefully followed in order to establish ownership. A claimant who does not receive title may acquire an easement by prescription. When a transaction involves the possibility of title by adverse possession, the parties should seek legal counsel.

Grantor

A grantor must have a legal existence, be of lawful age, and be legally competent in order to convey title to real estate. The laws of the state where the real estate is located will control the precise legal requirements to convey title. However, rules governing contracts usually apply to determine if a grantor is competent to convey real property.

A grantor must be of sound mind and of lawful age. According to common law, a person reaches majority at the age of 21. The legal age in most states, including Montana, has now been lowered to 18, but in the absence of a statute, the common law rule usually applies.

It is important that a grantor's name be spelled correctly and that there be no variation in its spelling throughout the deed. If for any reason a grantor's name has been changed from that by which title was originally acquired, he or she must show both names. It is customary for such a grantor to be described as, for example, "John Smith, now known as John White." It is best for a grantor first to state the name under which the title was acquired and then indicate his or her current name.

Name changes are more frequent when women own real estate. When title to property has been acquired under a woman's maiden name and she subsequently marries, the conveyance must show both names, as noted above. In many states, her spouse, if living, must join in the deed to release marital rights.

Grantee

The same criteria applies for Grantees in deeds as for Grantors. To be valid, a deed must name a grantee and do so in such a way that he or she is readily identifiable. A deed naming as the grantee a wholly fictitious person, a company which does not legally exist, or a society or club which is not properly incorporated is considered void.

A misnomer of the Grantee CANNOT be cured by a "Correction Deed"; although mere errors in recitals may be as in the case of Tax Deeds or Trustee's Deeds.

Unacceptable Grantees are as follows:

- John Doe Company which is a fictitious name, unless there is an affidavit recorded pursuant to the code for fictitious names.

- Henry Jones "OR" Mary Jones.
  The Grantee is NOT certain.

- The Inhabitants of a City.
  The Grantee is a vague group.

- The Estate A, deceased.
  By 70-1-703, MCA, this is an acceptable grantee and the code states that such a conveyance passes the interest as if the interest had been owned by the deceased person.

- Record Owner
  Such a Grantee should not be used in a conveyance which conveys a fee simple title; but can be used in situations where the Grantor wishes to release rights in a blanket easement or to relinquish an enforcement right under a condition or restriction.

A deed must contain words which convey the property and which manifest the present intention of the Grantor to divest himself of the title to the property. Words and combination of words which are acceptable words of conveyance are:

Grant
Release, remise and quitclaim
Release and quitclaim
Convey
Bargain and sell
Remise
Transfer

A deed must be signed and executed by the Grantor or the duly authorized agent in writing and the authority or Power of Attorney must be recorded prior to the deed being recorded. Signatures can be made by:

Individuals
Corporations
Partnerships
Other Legal Entities

If the caption of the instrument sufficiently agrees with the record, but the signature is at variance with the caption and if the name in the acknowledgment agrees with the caption, the instrument is acceptable. The name in the signature and the acknowledgment agree but are at variance with the caption the instrument is not acceptable.

Prefixes and suffixes are ordinarily immaterial; Dr., M.D., P.H.D., and Mr.; but Mrs. is important. Title acquired by Mrs. John Jones should have the deed executed by Agnes Jones who acquired title as Mrs. John Jones. An omission of "Sr"., or "Jr"., in one name and included in another or vice versa may be acceptable provided an identity is established of record; but a conflict between Sr. and Jr. is not acceptable where title is acquired by J.W. Jones, Sr. and a deed is from J.W. Jones, Jr.

As to corporations the addition or an omission of the word ("THE") can be disregarded.

Also acceptable for corporations are:

Co. for Company
Corp. for Corporation
Inc. for Incorporated

Unacknowledged deeds executed prior to January 1, 1983 are validated by 70-20-315, MCA, provided that no action is pending on October 1, 1983 to set aside such recorded deed.

Defective execution of instruments which were recorded prior to January 1, 1991 are validated by 70-21-309, MCA, provided that no action is pending as of October 1, 1991 to set aside such recorded instrument. Part (2) of the statute states:

> "Duly certified copies of the record of any such instrument may be read in evidence with like effect as copies of an instrument duly acknowledged and recorded"

A deed must not only comply with the formal requisites, previously discussed, but it must also be delivered by the Grantor and be accepted by the Grantee before it becomes effective. Delivery and acceptance are the acts by which a deed takes effect and passes the title to the Grantee.

Delivery may be actual or constructive and it is presumed to be delivered on its dates.

1. Actual delivery would be evidenced by the physical act of the Grantor in handing the deed to the Grantee with the expressed present intention of divesting the title.

2. Constructive delivery would be by the Grantor expressing a present intention of divesting of the title to the Grantee but without the act of handing over the deed.

3. Deeds given in contemplation of death or deeds made in contemplation of death which are to take effect upon the death of the Grantor; or which deed is not to be recorded until after the death of the Grantor always raise the question of sufficiency of delivery and the possibility of Federal Estate Taxes and Montana Inheritance Taxes.

    a. Under the Federal Statutes, any transfer made without adequate consideration within three years prior to the death of the Grantor is considered made in contemplation of death and may be subject to Federal Estate Taxes.
    b. By 72-16-301, MCA, Contemplation of Death Deeds within a 3 year period prior to the death of the Grantor may be subject to Montana Inheritance Tax.

Property transfers recorded with a County Clerk and Recorder in Montana must be accompanied by a Realty Transfer Certificate in accordance with the Realty Transfer Act of 15-7-301, MCA, through 15-7-311, MCA.

A Realty Transfer Certificate contains grantor and grantee, their addresses, legal description, date, type of sale, land type, water rights involvement, sale prices, etc.

Interpretation of Deeds

A deed may be clear in its intent to convey the interest in the real property or a deed may contain ambiguities in the language which create a doubt as to the interest being transferred. A deed is ordinarily construed in favor of the Grantee and against the Grantor, EXCEPT by 70-1-516, MCA, which provides:

> "... except that a reservation in any grant and every grant by a public officer or body, as such, to a private party, is to be interpreted in favor of the grantor"

Montana codified the "Doctrine of After-Acquired Title" by 70-20-302, MCA, which provides as follows:

> "Where a person purports by proper instrument to grant real property in fee simple and subsequently acquires any title or claim of title thereto, the same passes by operation of law to the grantee or his successors."

In effect the statute provides, for example, that when "A", who does not have title to Lot 1, purports to grant the fee simple title to "B", and when "A" subsequently acquires title to Lot 1, the title passes to "B" automatically. The after-acquired title doctrine is based on various legal doctrines and statutes. A Quitclaim Deed ordinarily has no effect on title acquired by the Grantor after the date of the Quitclaim Deed unless the Quitclaim Deed contains a "habendum clause" which was previously discussed.

The "Doctrine of After-Acquired Title" may not be applied to the following transfers:

1. United States Patents

2. Montana State Patents

3. A deed which purports to convey only the present interest of the Grantor

4. A Sheriff's Certificate of Sale or a Sheriff's Deed through an execution sale

5. A deed by:
   a. Administrator
   b. Executor
   c. Guardian
   d. Personal Representative
   e. Conservator
   f. Receiver
   g. Court appointed officer

6. A Quitclaim Deed, except one containing a habendum clause or which merely confirms the title held at the time of the execution of the Quitclaim Deed.

7. A Trustee's Deed either under a power of sale or a sale under a Montana Trust Indenture.

The "Doctrine of After-Acquired Title" has been applied to the following:

1. A deed by which the Grantor "bargains, sells and conveys" and does not limit the estate conveyed to his present interest.

2. A deed expressly purporting to convey all after-acquired title.

3. A Quitclaim Deed where the Grantor subsequently receives an instrument which merely confirms the title held by him at the time of the execution of the Quitclaim Deed.

4. A deed in which the Grantor, holder of an inchoate interest in public lands, subsequently obtains a patent.

5. A deed in which the Grantor, holder of an equitable interest under a Contract For Purchase, subsequently obtains record title.

6. If, after the execution of Trust Deed or Mortgage the mortgagor or trustor conveys the property by a deed and thereafter such Trust Deed or Mortgage is foreclosed thus eliminating the interest of the Grantee and his successors in interest, and the trustor or mortgagor reacquires title, the interest of such Grantee or his successors in interest may be revived.

There are instances when the Grantor may subsequently reacquire the title that had previously been conveyed but because of the circumstances surrounding the reacquisition the "Doctrine of After-Acquired Title" would not be applicable. Some examples are as follows:

1. When the title is subsequently acquired by the Grantor under either a voluntary or involuntary conveyance of the title held by the Grantee. To illustrate: When "A" conveys to "B" who later conveys to "C", a voluntary or involuntary conveyance through an execution sale of "C's" estate to "A" is an independent title vesting in "A" and does not inure to "B" as an after-acquired title.

2. A conveyance that is void or inoperative in its inception. To illustrate: A forged deed or a transfer of a mere possibility or expectancy not coupled with a present interest.

3. Where co-tenants make a voluntary partition by mutual conveyances and one of the co-tenants subsequently acquires a paramount title, the doctrine of after-acquired title probably would not apply, as the co-tenants on partition divided only such interests as they had at the time of conveyances. To illustrate: "A" and "B" were joint owners of the Northwest 1/4 and South 1/2 of Section 10. To carry out an agreement for partition they executed two deeds, one from "A" to "B" describing the North 1/2 of Section 10, and one from "B" to "A" covering the South 1/2 of said section. At the time neither "A" nor "B" had any interest in the Northeast 1/4 Section 10. Subsequently, "A" acquired title to the Northeast 1/4 of Section 10. The after-acquired title of "A" did not inure to the benefit of "B".

4. Where there are deeds which "neutralize" each other. To illustrate: "A" who has no title grants a 300 acre farm to "B" and "B" grants back 27 acres to "A". "B" then acquires good title to all of the 300 acre farm. "B's" after-acquired title does not "feed" his deed to "A" for the 27 acres.

5. The "Doctrine of After-Acquired Title" may be altered in the application thereof by the recording statutes. To illustrate: "A" who has no title grants to "B". "A" then acquires title and conveys to "C". "C" has no notice of the deed to "B". The recordation of the deed from "A" to "B" which was prior to "A's" acquisition of title would not constitute record notice. Thus "C's" title prevails.

Reservations and Exceptions in Deeds

Both a reservation in a deed and an exception in a deed detract and subtract from what the grantee would otherwise take under the deed in which it appears. The two terms are

frequently used interchangeably, but technically speaking they are not synonymous. In view of the fact that the words "reserve" and "except" are often used interchangeably the determination of whether or not a provision in a deed is one or the other is dependent upon its nature, effect and the intention of the parties.

1. A RESERVATION creates on behalf of the Grantor a right in the land conveyed which did not exist prior to the grant. A reservation in its technical sense, is in effect a grant back to the Grantor by the Grantee, i.e., title to the land described passes to the grantee who then grants to the Grantor the interest reserved; such as, an easement, or an interest in timber or minerals.

2. An EXCEPTION withdraws from the grant some part of the land conveyed which is in existence at the time the conveyance is made and which would otherwise pass in the absence of the exception. For example, "A" grants Lot 1, except the South 250 feet thereof, to "B".

3. When recitals in a deed create either a reservation or an exception of Life Estate in favor of the Grantor who was the record owner there is created two estates after the deed is recorded; the fee simple estate or remainder is in the Grantee and the Life Estate is in the Grantor.

4. When recitals in deeds are encountered in which a reservation is made in favor of the Grantor and a spouse or a stranger not appearing in the record change of title, the courts have uniformly held that a reservation in favor of a stranger to the record chain of title creates no interest in the stranger; but an exception is made in Montana whereby a reservation in favor of a spouse who did not appear in the record chain of title was held valid.

Void Deeds

Deeds which are void and pass NO title even in favor of innocent purchasers for value are as follows:

1. A deed from a person whose incapacity has been judicially determined, for example: a deed from a person for whom a guardian has been appointed.

2. Forged deeds.

3. A deed from a person under the age majority.

4. A deed executed in blank, where the name of the grantee has been inserted without authorization or consent of the grantor.

5. A deed purely testamentary in character, for example: when the grantor intends that the deed would not become operative until his death.

6. Deeds to one self. An exception to this is by 70-20-105, MCA, which permits a conveyance to ones self and another person to create a joint tenancy.

Decrees as Conveyances

The formal pre-requisites for a "Judgment" or "Decree" to be binding and not be subject to a collateral attack are:

1. The court must have jurisdiction of the parties or persons in the lawsuit.
2. The court must have jurisdiction of the property in the lawsuit.

An "Order", as distinguished from a "Judgment" or "Decree", is a direction of the court or judge and can be made either in writing or merely entered in the minutes of the court and not be included in the judgment. An Order merely settles some point of practice or some question collateral to the main issue of the case.

A "Judgment" or "Decree" ordinarily disposes the action and terminates the contested issues. A "Judgment" or "Decree" is the final determination of the rights of the parties in the action.

Along with Orders, Judgments and Decrees is a document called "Lis Pendens" which can either be filed or recorded. A "Lis Penden" definition by case law is:

> "A lis pendens gives constructive notice to persons acquiring interests from the parties to the action of the pendency of the action and of not only those facts apparent on the face of the proceeding, but also those facts that could be ascertained by the inquiry such a person is obligated to make by the record disclosure."

The doctrine of "Lis Pendens" applies to quiet title actions; foreclosure actions, both mechanics liens and mortgage; actions to set aside a conveyance of land; actions of ejectment; condemnation actions; and generally all conventional actions which affect title or possession of real property. Divorce actions, but not designated as marital dissolution actions in which the complaint does not raise an issue of ownership of real property or ask for an award of real property, or for a lien on the real property are not included in the doctrine of "Lis Pendens".

In summary, if an action affects title to or possession of real property or concerns real property and no notice of the pending action is filed or recorded, or if the action is of any other character, whether or not a notice of the pending action is recorded, there is no constructive notice of the pending action and a subsequent decree or judgment that is recorded is in effect only from the date of recording of the judgment and decree.

Dissolution of marriage decrees wherein the real property is either apportioned or vested in a party to the action is done pursuant to 40-4-202, MCA.

Quiet Title Action Judgments and Decrees are recorded in the Clerk and Recorder's Office in the county where the real property is located. This is done pursuant to 70-28-215, MCA.

Partition Action Judgments and Decrees are recorded in the Clerk and Recorder's Office in the county where the real property is located. This is done pursuant to 70-29-212, MCA.

To be assured that the acquisition of the title will be free of defects and encumbrances, a purchaser must trace the chain of title in the records kept by the County Clerk and Recorder as prescribed by the recording laws.

CHAPTER 7

THE STATE MAPPING SYSTEM

Any mapping program, from relatively modest maintenance to an ambitious initial project in an jurisdiction with no existing graphic records, should be carefully planned and managed. Assessment mapping involves the handling of large quantities of information that must be properly organized, stored, and displayed. Although errors are inevitable, proper planning and organization can reduce them to a minimum.

Currently, the State of Montana does not have a set of complete guidelines for a cadastral mapping system. Montana is one of the few states that does not have a statewide ownership mapping system.

The Property Assessment Division has outlined some information on Geocode mapping in the MONTANA APPRAISAL MANUAL. Refer to Part 3, pages 32.1 through 32.14.

Cadastral mapping began in the Property Assessment Division in 1978, when the first draftsperson was hired in Butte, Montana on the C.E.T.A. (Comprehensive Employment Training Act)Program. Other highly populated counties followed. The necessity of having maps for the discovery, identification and inventory of real property parcels became apparent. These maps provided a base for the parcel identifier (Geocode), the determination of the area of land parcels, and to other elements of the appraisal/assessment process such as access, terrain, flood plain information. The absolute assurance that all real property within a jurisdiction will be accounted for and properly assessed can only be achieved through a proper cadastral mapping system.

Currently, these are the problems identified:

1. Lack of Mapping Standards. Every region seems to be doing something different. These different methods go from hand drawings on paper, to hand drawings on mylar, to computerized drawings on a GIS system.

2. Lack of Mapping in Rural Counties. With the new "Region" concept, cartographers are now looking at rural counties, especially in western Montana, which are booming with subdivisions and land splits. Most rural counties have poor maps at best. In order to keep pace with the development of these rural counties, new maps need to be made to keep track of all real property in the area.

3. Training Program for Cadastral Cartographers. A training program for cadastral cartographers and new personnel should be established. This training program will enable cartographers and new personnel to utilize the new technology used in cadastral mapping in their performance as cadastral cartographers.

4. Lack of Modern Equipment. Almost all regions with few exceptions are still mapped by hand. Computerization of maps is a must. A cartographer can handle and maintain more maps by computer than by drafting manually. Autocad or GIS is the wave of the future and has been implemented in several locations.

5. Understanding the need for a statewide cadastral ownership base. By producing a mapping inventory and ownership base, not only the state government would benefit its use, but local governments also could benefit from the utilization of producing a mapping inventory and ownership base.

In the International Association of Assessing Officers (I.A.A.O.) book, Property Assessment Valuation, it states "The Appraisal/Assessment Office is responsible for discovering, listing, and valuing all taxable properties. In accomplishing this, the Appraisal/Assessment Office is responsible to the individual property owner to ensure that the value is proper so that the owner pays no more than his/her fair share of the property tax. The Appraisal/Assessment Office is further responsible to all the people in ensuring that no property escapes the assessment process or is under assessed and that no property owner receives unauthorized preferential treatment. In accomplishing the initial task of discovering property, the Appraisal/Assessment Office needs a mapping system that shows each and every parcel of land. Without an adequate mapping system, it will be quite difficult to verify that all land has been discovered and that all measurements resulting in square-footage and acreage calculations are accurate." (Page 1 and 2, Chapter 1). How can any property be properly valued it if is not known it's exact location in relationship to other parcels in the county? A statewide mapping system would help to solve this problem.

The most important aspects of a mapping system should be to:

1. Accurately locate all property in relationship to adjoining properties.

2. Discover property not being assessed.

3. Ensure that the assessments are accurate as far as the location, acreage, names, etc.

4. Eliminate double assessments.

5. Combine contiguous tracts (assessments under the same ownership obtained on different deeds) to eliminate excessive paperwork.

GLOSSARY

GLOSSARY

Alienation - The voluntary and absolute transfer of title and possession of real property from one person to another. The law recognizes the power to alienate property as one of the essential ingredients of fee simple ownership.

Cadastral - Of or relating to a cadastre. Showing or recording property boundaries, subdivision lines, buildings, and related details.

Cadastre - An official register of the quantity, value, and ownership of real estate used in apportioning taxes.

Catrographer - One that makes maps.

Cartography - The science or art of making maps.

Easement - A right of use over the property of another. Traditionally the permitted kinds of uses were limited, the most important being rights of way and rights concerning flowing waters. The easement was normally for the benefit of adjoining lands, no matter who the owner was (an easement appurtenant), rather than for the benefit of a specific individual (easement in gross). The land having the right of use as an appurtenance is known as the dominant tenement and the land which is subject to the easement is known as the servient tenement.

A right in the owner of one parcel of land, by reason of such ownership, to use the land of another for a special purpose not inconsistent with a general property in the owner.

Escheat - The reversion of property to the state or sovereign, as the ultimate proprietor of realty, by reason of the lack of anyone to inherit it or by reason of a breach of condition, etc.

Estoppel - A doctrine of law that stops one from later denying facts which that person once acknowledged were true and others accepted on good faith.

Fiduciary - A person having a (legal) duty, created by his undertaking, to act primarily for the benefit of another in matters connect with his undertaking; in the nature of a position of trust or holding confidence.

Grantee - The party to whom the title to real property is conveyed; the buyer.

Grantor - Anyone who gives a deed.

Habendum Clause - That clause of the deed which names grantee and limits and defines the estate to be granted. It function is to qualify the general language that appears in granting clause.

Inchoate - That which is not yet completed or finished.

INH-3 - In most cases, title of property in joint tenancy with right of survivorship can be transferred to the surviving tenant by recording a termination of joint tenancy or an approved application for determination of inheritance tax.

Intestate - To die without leaving a valid will.

Lis Pendens - Recorded notice of the filing of a suit, the outcome of which may affect title to a certain land.

Right-of-Way - Term "right of way" sometimes is used to describe a right belonging to a party to pass over land to another, but it is also used to describe that strip of land upon which railroad companies construct their road bed, and, when so used, the term refers to the land itself, not the right of passage over it. Bouche v. Wagner, 206 Or. 21, 293 P.2d 203, 209.

As used with reference to right to pass over another's land, it is only an easement; and grantee acquires only right to a reasonable and usual enjoyment thereof with owner of soil retaining rights and benefits of ownership consistent with the easement.

Testate - Having made a valid will.

Ultra Vires - Beyond, outside of, in excess of powers; that which is beyond the power authorized by law for an entity.

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